

THE AUTOMOBILE



Once More the Reliability of the American Automobile is Convincingly Told by the AAA Tour

GLIDDEN TROPHY PERFECT SCORE CARS FOR 1908.

1. Pierce Arrow	7. Peerless	15. Rainier	24. Studebaker
2. Pierce Arrow	8. Premier	16. Stevens-Duryea	26. Studebaker
3. Pierce Arrow	10. Gaeth	17. Stevens-Duryea	27. Oakland
4. Reo	11. Thomas	19. Haynes	30. Garford
5. Peerless	13. Franklin	20. Haynes	35. Oldsmobile
6. Peerless	14. Franklin	21. Marmon	

HOWER TROPHYITES.

100. Pierce Arrow
103. Pierce Arrow
104. Premier
107. Stoddard-Dayton
102. Stoddard-Dayton

PERFECT CLUB TEAMS.

Automobile Club of Buffalo, No. 1.
Columbus Automobile Club.
Chicago Automobile Club, No. 1.

HOW THE TIED CARS WILL CONTINUE

THE STRENUOUS MOTOR BATTLE TO A FINISH

SARATOGA SPRINGS, N. Y., July 23.—Twenty-three American touring cars and five American runabouts this afternoon completed with perfect scores what was known as the "Fifth Annual Reliability Tour of the American Automobile Association." No more trying task has ever been asked of automobiles than this 1,675-mile run which started at Buffalo and finally has reached here after traversing Pennsylvania, New York, Massachusetts, New Hampshire, Maine and Vermont. Herewith is the honor roll:

Touring Cars.—No. 1, Pierce; No. 2, Pierce; No. 3, Pierce; No. 5, Peerless; No. 6, Peerless; No. 7, Peerless; No. 19, Haynes; No. 20, Haynes; No. 13, Franklin; No. 14, Franklin; No. 16, Stevens-Duryea; No. 17, Stevens-Duryea; No. 24, Studebaker; No. 26, Studebaker; No. 35, Oldsmobile; No. 21, Marmon; No. 4, Reo; No. 8, Premier; No. 10, Gaeth; No. 11, Thomas; No. 15, Rainier; No. 27, Oakland; No. 30, Garford.

Runabouts.—No. 100, Pierce Arrow; No. 103, Pierce Arrow; No. 107, Stoddard-Dayton; No. 112, Stoddard-Dayton; No. 104, Premier. (These five contended for the Hower Trophy.)

Three club teams are tied for the Glidden trophy: Buffalo—No. 1, Pierce; No. 2, Pierce; No. 3, Pierce. Columbus—No. 5, Peerless; No. 6, Peerless; No. 7, Peerless. Chicago—No. 19, Haynes; No. 20, Haynes; No. 35, Oldsmobile. The last named car is being driven by Andrew Auble, of Akron, Ohio, who says to-night he must return home because of business matters. Therefore, if he does so, the Haynes pair will be unable to continue, which means that the Buffalo Pierceites and the Columbus Peerless team will fight it out if it takes all Summer. That plan is the program to-night and in the morning these two teams and the five tied runabout contenders will continue the motor-driven battle, first going to Buffalo and then starting anew over the route of the tour.

Chairman Hower, and globe-girdler Glidden express great satisfaction at the result of the tour which they consider an unquestioned and convincing triumph for the product of the American industry.

The City of Springs gave the tourists a warm welcome at the conclusion of the twelve-day journey. Great crowds thronged the main street to greet the dust-grimed caravan and the Saratoga Automobile Club supplied an appreciated luncheon in the court of the Grand Union Hotel, before which Chairman Hower's pacemaker drew up at 2:36 P. M. followed by a dozen contending pursuers. The car had left Bethlehem, N. H., at 5:18 A. M. and kept to its schedule all the way. Outside of Rutland 115 miles from the start, the contestants caught the pacemaker. The terror of to-day's 184-mile run had been dinned into the caravan since the tour began and a knockout was feared on the 9 hour, 20 minute schedule set for the trip. But for the terrific climb up and coast down the Green Mountains with water breaks innumerable the route was not a sufficient handicap to stop any of the indomitable auto pack from schedule making. From a scenic standpoint the run was quietly picturesque. It see-sawed across the Connecticut river between Vermont and New Hampshire and skirted and climbed the Green Mountains



Three Pierce Arrows—The Perfect Score Team of the Chicago Motor Club.

enroute. Then it entered New York in the pretty Lake Champlain region and followed the foothills of the Adirondacks into Saratoga over a macadam wind-up of several miles. Hospitality galore was extended enroute.

The only car to drop out of the strenuous game on the concluding day was No. 23 Marmon, driven by Howard Marmon, with a cracked cylinder casting at about half the distance and immediately withdrew. Several noteworthy performances in the tour deserve special mention. Mrs. Cuneo drove her Rainier with a perfect score, a feat in woman's participation in automobiling that is historic. That one of the Chicago Motor Club's teams made up of \$2,750 cars, two Haynes and an Oldsmobile, should have finished even with two of the highest powered and priced trios with the small handicap allowed them under the rules, was a significant achievement for cars of medium cost and power. R. M. Owens' piloting of a little two-cylinder Reo touring car into the perfect score division, thus repeating his performance of last year, was another praiseworthy effort.

The performance of the Pierce and Peerless trios was marvelous in its perfection. A record that is unequaled in the annals of touring contests is that of W. S. Stroub, who not only drove his Peerless without an adjustment but without even pumping air into his tires.

A. G. B.



Columbus Automobile Club's Team of Perfect Score Peerless Cars.

THE ELEVENTH DAY.

BETHLEHEM, N. H., July 23.—As a result of the pranks of the weather man, the tourists had an easier run of it today than the powers-that-be had intended to frame up for them. It rained last night, and before Chairman Hower started out in his pace-making car this morning it looked more than merely threatening, the prospects being such that Mr. Hower was certainly justified in changing his fair-weather schedule of 6:40, that had been slated for the day, to a rain time-table of 7 hours and 30 minutes. It did begin to come down a bit between the intervals of the start, which was delayed until 7:30 A.M., owing to "Sunny Jim, the confetti tosser," not having been routed out of his downy couch in good season. Bad weather was imminent up to 10 o'clock, but after that the sun god put Jupiter Pluvius to flight and gave glorious sunshine and dry winds

from the fifty-mile point on to the night stop at Bethlehem.

The run was one of varied beauty, retracing for a dozen miles the Rocking Horse hills through the thick woods of yesterday. Farther on the caravan struck the Androscoggin, and bowled along its banks for some fifty miles. Then the tourists entered the White Mountain region and skirted the bases of the steep green slopes and cloud-enveloped peaks of the Presidential range. The road surface was excellent, though a bit soft in spots. The route passed through scores of resort towns and by summer hotels, where pretty girls in swarms and, in fact, the whole countryside turned out to convey a greeting to the fleeting cars.

At the Sinclair House, at Bethlehem, the many tourists found a bed apiece waiting them, and turned in promptly, a number turning out early enough the next morning to view the fine scenic environments of the highest turn in New England. Throughout the tour there has been reiterated in joke the query, "If anything should happen to Hower?" and something did happen to Hower to-day. As he was bowling along in the pace-making car at the easy pace called for by the schedule, Winchester's Great Arrow encountered a team of skittish horses, and in giving them a wide berth the inside wheels of the pace-maker ran close to a sandy bank with a drop of six feet. The edge crumpled and gave way. Hower was thrown out and rolled down the bank into a wire fence, while Glidden jumped and had a roll all to himself. The car tilted acutely but did not go over, or there might have been a tale of a crushed chairman and a flattened out trophy-donor to tell. Just then Teddy Day caught the advance guard and Hower went aboard, continuing his pace-making in schedule time.

The resourceful Tom Fetch happened to be behind the pace-making car with the "El Toro" Packard. Tom got busy at once. He dug a trench for traction, called for volunteers to hold the car from toppling over, attached a wire cable, and then started the Packard. In the first attempt the cord snapped, but the second try was a success, and landed the Great Arrow on *terra firma* in a jiffy. "Good Samaritan I am" had no chance to rescue unfortunates in this tour. Last year he pulled a car out of a canal, and the year before went to the

relief of several parties stranded for bait on the course. To-day was Tom's first busy day, for to-night he started out to bring in Billy Hurlbut, whose tin axle had again given out, near Gorham, and to pick up the crew of Marmon, No. 22, which was down and out 59 miles to the rear, with a broken wheel which put it entirely out of the running.

Mrs. Cuneo's Lively Driving.

Mrs. Cuneo, by the way, was so long delayed at Rangeley adjusting a fan that she had to drive her Rainier 130 miles in 5 hours and 25 minutes to save her clean score. No clean-score cars left any points to-day, and a run-off of Glidden and Hower trophy ties is so certain that the chairman, at to-night's meeting, requested those tied for places to meet him at the Grand Union to-morrow night to arrange the details of the run-off, which he hopes to be able to begin Friday morning.

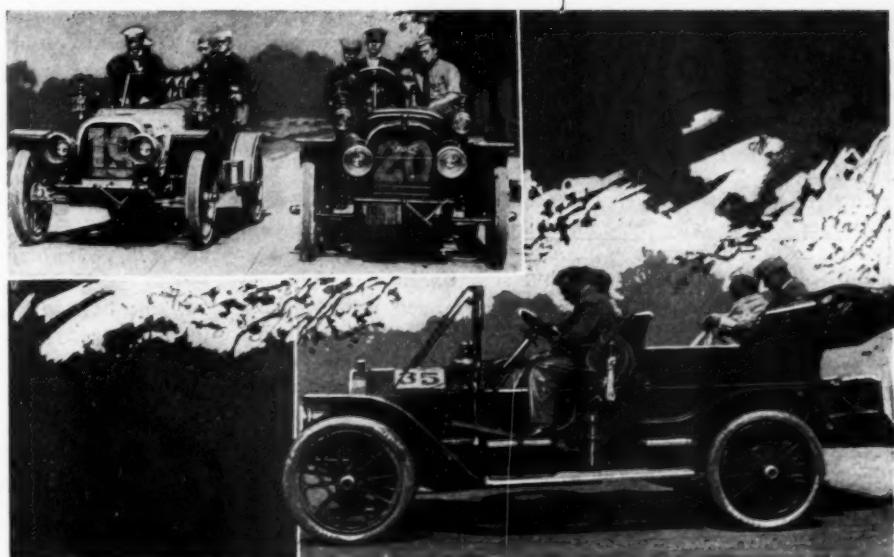
J. C. W.

HOW THE SCORES SUFFERED ON WEDNESDAY.

BETHLEHEM, N. H., July 22.—No perfect-score cars suffered on to-day's run of 130 miles from Rangeley Lakes here, through the White Mountains, but in all fourteen cars had difficulties of one nature or another. No. 22, Clark's Marmon, that had brake trouble yesterday, broke a wheel to-day when it took a ditch near Bethel, seventy miles out, the report being the trouble was caused when turning out to pass a team. This car is not in yet, and took the full 1,000 count of debit marks. It will complete the run to Saratoga as a non-contestant. No. 28, Oakland, got nine points on time caused by being late in leaving Rangeley this morning. The car had hard luck yesterday, breaking a spring, and having to take up the connecting rods to-day. It made slow time throughout the majority of the trip.

Tuesday had been cloudy, and rain that had threatened all day started to fall about six o'clock, and continued in a perfect downpour all during the night. The schedule had been announced as six hours and thirty minutes.

Mr. Hower did not start until half an hour after his regular time, and the competing cars were not allowed to check out until 7:30, instead of 7 o'clock. It was noticeable that, despite the fact that the rain had stopped, the big cars were not as anxious to be checked out first, as they had been in fair weather, and held back. All of the entrants seemed a little inclined to let someone else go first and break the roads for them. The Pierce team was to the forefront and got away early, and brave little Mrs. Cuneo followed close behind. All of the entrants immediately after checking out stopped to put on their tire chains, some of them putting chains on both front and rear wheels, in order not to take any chances in the mountain roads, which were reported to be in very bad condition. This report proved to be without foundation, in fact, however, for the roads proved to be as good and in many places even better than those met on any stage of the run except the trip from Albany to Boston. Apart from one or two showers there was no rain to speak of during the day, and the mountain roads, which had dried up very quickly, were excellent.



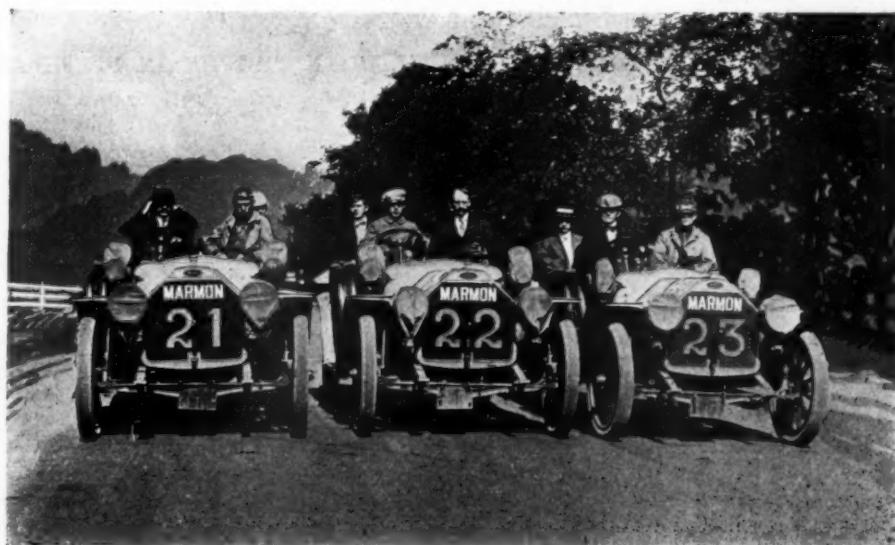
Chicago Motor Club's Perfect Score Team—Two Haynes and Oldsmobile.

The route led from Rangeley to Madrid, retracing Tuesday's route to this point, to Weld, Dixfield, Mexico, Rumford Falls, Rumford Centre, Rumford Point, Hanover, Newry, North Bethel, Shelburne, Gorham, Randolph, Cherry Mountain, Carroll, Bethlehem Junction and Bethlehem.

The day was one of many mishaps, and Mrs. Cuneo had to do some fast driving to keep her perfect score intact. She lost an hour in taking the fan belt off her machine and patching it, and as a result had to make the trip over the mountains at high speed. She made the last eight miles into Bethlehem in 14 minutes. She was ahead of time, and checked in amid the cheers of the guests who lined the hotel porch, and the loud applause of the tourists.

No. 110, Overland, went about twenty miles out of Rangeley on a narrow mountain road, dropped into a deep hole, and the rear axle was snipped off close to the spring seating. A fence rail was secured and the machine was pried off the road so as not to block the other cars. Repairs will be made and the car will endeavor to join the tourists in order to be in at the finish at Saratoga.

No. 24, Studebaker, met with an accident near Shelburne, which came very near putting both it and its passengers out of commission. The road approaching a sharp but hidden turn to a bridge was particularly good. The car came along at high



Bay State A. A. Team, Two of which Were Unlucky Near the Finish.

speed, and the driver was almost on the turn before he saw it. He was unable to slacken the speed of the car a great deal and took a chance, swinging the corner at high speed. The machine skidded, nearly went over, and, before the driver could regain control of it, crashed into the bridge. The car continued after replacing a tire, which was torn off when the skid occurred.

Car No. 18, the Gabriel Horn Oldsmobile, skidded when a few miles out of Rangeley, and, striking a stone in a ditch, bent its rear axle. Driver Foster managed to run the car to Bethlehem, despite the fact that one of the rear wheels was badly out of line. He took it to a blacksmith shop and made repairs. Car No. 101, one of the Reo entries, was slightly delayed as a result of the necessity of tightening up its transmission.

Car No. 23, Marmon, was delayed by tire trouble, but finished on time. No. 111, Overland, was delayed on route as a result of the necessity of making adjustments to its engines.

No. 4, Reo, went to a blacksmith shop and repaired a broken rear axle truss rod. A number of the machines are running with broken or missing parts. Van Tine's Garford has no starting crank, and it is necessary to push the car until it gets under headway and then throw in the gears in order to start the engine. No. 24, Studebaker, has its oiler driving gear broken and is splash oiling its engine. No. 12, Franklin, is running under the same conditions as a result of a broken oiler-pipe.

In keeping with a desire expressed by the tourists that they be allowed to check out at 6 o'clock for the last day's run instead of 7 o'clock, the usual hour, in order that they might reach the finish line early on Thursday, the cars will check out in the same manner that they did at Buffalo, *i. e.*, in the numerical order that their entries were received. This is to avoid any friction as to which cars are to go into Saratoga first, and will prevent racing to reach the finish line. The competing cars will be held up a few miles out of Saratoga by the chairman, and will go into the city in numerical entry order in one line to the finish point at the Grand Union Hotel.

Time Schedules, Tuesday, July 21.—Poland Spring to Rangeley, 142.7 miles, schedule seven hours twenty minutes.

Class.	Hours.	Minutes.	Miles per hour.
A (Glidden)	7	20	19.5
B (Glidden)	7	30	19.
C (Glidden)	7	40	18.6
D (Glidden)	7	50	18.2
A (Hower)	7	20	19.5
B (Hower)	7	30	19.

Time Schedules, Wednesday, July 22.—Rangeley to Bethlehem, 130 miles. Schedule, seven hours forty minutes.

Class.	Hours.	Minutes.	Miles per hour.
A (Glidden)	7	30	17.3
B (Glidden)	7	40	16.9
C (Glidden)	7	50	16.5
D (Glidden)	8	None.	16.2
A (Hower)	7	30	17.3
R (Hower)	7	40	16.9

TOURING CAR SUMMARY OF THE FIFTH ANNUAL A. A. A. TOUR, 1908

CLUB STANDING FOR THE GOLDEN TROPHY IN FIFTH ANNUAL A.A.A. TOUR 1968

SCORE OF THE CONTESTANTS FOR HOWER TROPHY IN FIFTH ANNUAL A. A. A. TOUR, 1928

STORY OF SEVENTH DAY—MILFORD, PA., TO ALBANY, N. Y.

ALBANY, July 16.—From Milford, Pa., to New York's State capital it is 158.5 miles. The time schedule required it to be made in 8 h. 15 min., a 19-mile-an-hour average. A proviso was made, however, there being clay roads from Kingston on, that, should it rain, which would make the going greasy, the schedule should be cut down to 9 h. 30 min. The weather clerk was in good humor, though, so the first schedule went.

The run was as easily made as have been all the others. As a matter of fact, the prevailing maximum speed limits of 20 miles an hour are proving over any sort of fair going utterly inadequate to hamper even the small cars in the contest. It must be a bad accident entailing a long stop that will prevent a car making up any delay that does not extend too far over one hour. The talk is that next year adjustment as well as replacement penalties may have to be added to secure more rapid elimination and not permit as many teams and runabouts evolving tied with perfect scores as at present seems likely when Saratoga is reached. In a word, American cars as a rule can now beat any speed limit that the laws will permit.

Buffalo's No. 2 Team Loses Its Place.

Another team fell a victim to-day to the fortunes of war. The Automobile Club of Buffalo's No. 2 trio lost its place in the front line through Premier No. 9, which was driven by Joe More and had H. O. Smith aboard, meeting with an accident at Kingston. In rounding an unexpected hairpin turn, which had fooled not a few of the drivers, Moore gave his steering gear too hard a wrench and put it out of commission so far as a repair within schedule time went. New parts not carried on the car, in fact, had to be used, which, under the rules brought disqualification. Mr. Smith received unanimous and sincere condolences, for he has been one of the most liberal supporters of the tour, having entered two touring cars and a runabout, and supplied a path-finder and pilot car and a press car besides.

It was a glorious ride of 59 miles over fine stone roads from Milford to Newburgh, which continued with the same highway conditions to Kingston, 37 miles further on, the run to the Hud-

son being over picturesque hills and through farm lands fair to the eye. It gained in grandeur and variety during the ride to Albany, which was along the Hudson all the way. One had magnificent panoramas of America's Rhine and, landward, of the distant Catskills that lifted their heads through the light clouds that hovered over the western horizon.

Take the West Bank to Albany Hereafter.

It converted many to the west bank route to Albany, which has been too generally and ignorantly decried and avoided. It presents more open and picturesque country than the opposite shore. There are fine stone roads all the way to Kingston and from there on, as has been stated before, the clay roads are by no means bad except in wet weather. No finer route to the Delaware Water Gap from New York could be had than via Newburgh and Milford, which could be used, by the way, to avoid the repetition of the route more generally followed through New Jersey.

The men aboard "El Toro," the Packard press car, enlivened the early stages of the day's run by starting at daybreak and putting up good humored josh signs. On one tree was the query, "If anything should happen to Hower?" followed a hundred yards further on by "What the h—l do we care?" A sign "Toll Gate" in front of a saloon fooled many. A pond bore the sign, "Franklins, stop here," and on a rough shack was the notice, "A bath with every room." On a rock was painted "Cheer up, it ain't half bad"—Dai.

The Packard car got in later than usual, the outfit as a rule starting at the end and loitering along the way for luncheon, photographs and a good time generally. A story was put in circulation and on the wire that it had broken down and that its passengers had come in by train. The fact was that it had ripped off a tire in passing another car on a rough hill, stopped to replace it and loafed the rest of the way in. The story savored of the malicious, as inquiry would have easily disclosed the facts and proved by witnesses that the car deposited its passengers at the Ten Eyck between 8:30 and 9 o'clock.

J. C. W.

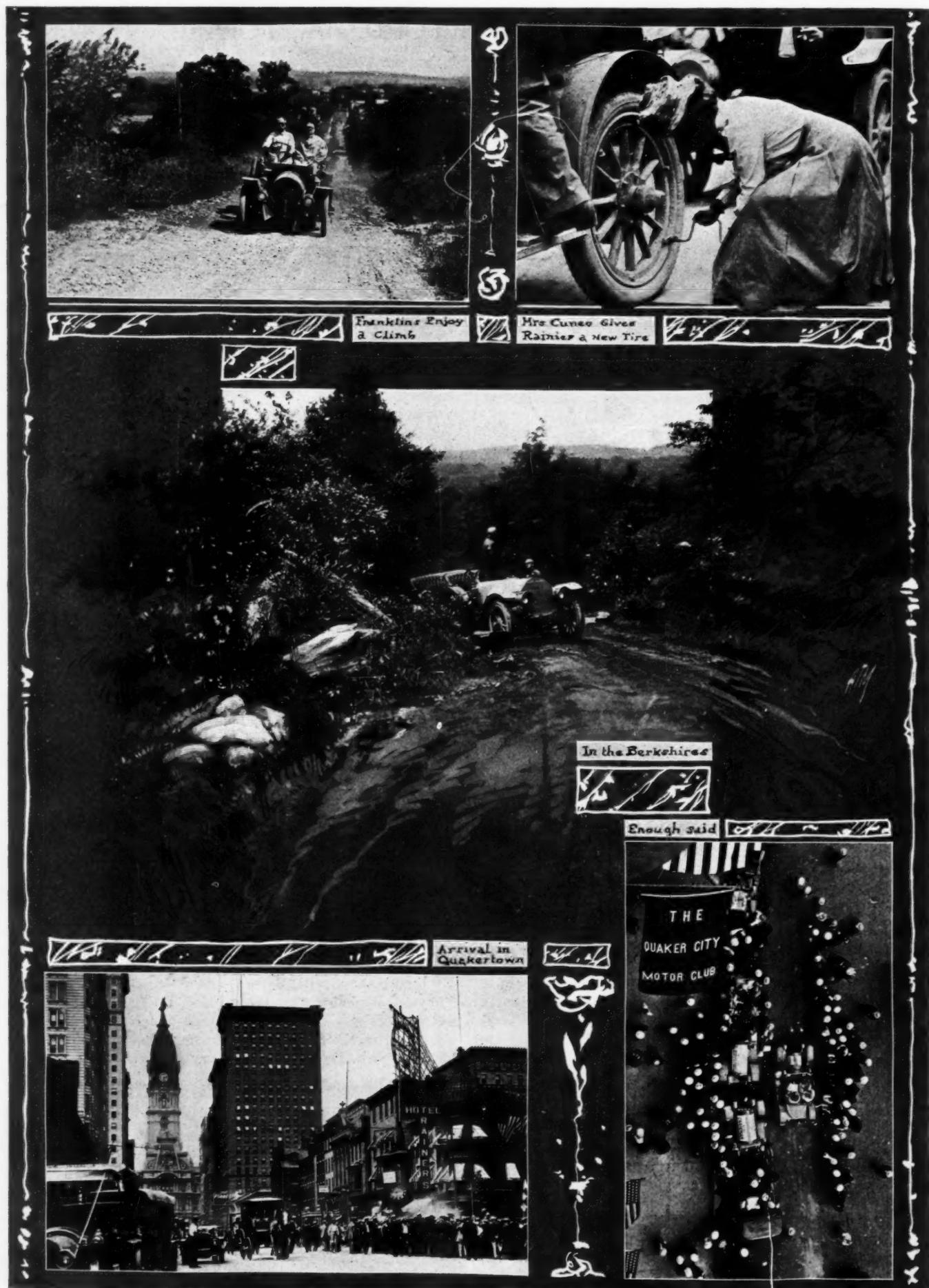
TECHNICAL STORY OF THE MILFORD-ALBANY JOURNEY

ALBANY, N. Y., July 16.—To-day saw the blighting of the hopes of the second Buffalo team for the Glidden Cup, the No. 9 Premier touring car dropping out because of a broken steering knuckle, which occurred at the sharp turn out of Kingston. The car was delayed until the piece was welded and new parts used in the repair obtained, the result being 1,000 points against the car and the club standing lowered to 666.6 points. It appears that in this axle and steering parts, as well as in the front axle of the Premier Pilot, which broke in the Philadelphia-Milford run, chrome nickel steel was not used, as the axles were among the early ones and were deemed equal to the tour, not being used in the cars regularly sold. No. 28 Oakland, which bent a front axle earlier in the tour and visited a blacksmith shop, where it was heated and reformed, to-day developed a little sagging, which occasioned a quick repair. A length of square steel shafting one inch to the side was positioned under the axle extending from the steering knuckle jaw at one side to the same point at the other side. This was bent in the form of a strut rod and a piece of wood placed between its center and the axle. This done, plentiful wiring bound it to the axle, and the driver is confident that the member will give no further trouble before Saratoga is reached. The two Oakland touring cars are making a most favorable impression in the tour, carrying

their four passengers every day. Both would have perfect scores had it not been for the carelessness of the driver on No. 28 allowing his motor to run dry and burning out a connecting rod bearing. The morning of the start from Buffalo many predicted that these newcomers in the field would be out of the running before Pittsburg was reached, but they are both making schedule time and are daily gaining in favor. They are demonstrating the value of the balanced two-cylinder vertical motor, which is without adherents in this country except in the Oakland and Brush ranks, but is very popular in French, English and German factories.

Radiator Troubles Have Been Frequent.

Gus Buse took occasion on to-day's easy run to repair his leaky radiator on the Thomas six. The radiator was removed and the leak discovered in the base. The soldering was quickly done, and forty-five minutes from the time the car was stopped it was ready to resume the trip. Radiators have given not a little trouble on the tour, and in the majority of cases it appears to be the system of support that is in fault, rather than the radiator construction, because the leaks are in the base plate or adjacent thereto. This condition suggests the ball-and-socket trunnion support that already has a few supporters.



A hasty look over the cars on their early arrival at Albany failed to disclose any evidence of the long daily runs, although nearly every driver had something to say on tire troubles. Wagner, driving Haynes No. 20, said that since he left Buffalo he has not touched a tire, not even having to put any air into them. Arthur Kumpf, driving a No. 2 Pierce, had his first puncture to-day and made the first change of a casing, replacing the punctured one, which was badly worn. The Rainier driven by Mrs. Cuneo fared badly, having a puncture and a blowout and requiring thirty-eight minutes for the two, which repairs were made with the motor running, thereby adding the lost time to the schedule. The majority of drivers avail themselves of this rule and prefer to keep the motor running while repairing tires.

A Long Line Up to Check In.

The cars reached Albany at 2:40, Chairman Hower's Pierce leading, and closely followed by the Gabriel horn Oldsmo-

bile that is used daily to escort the leaders into the city. Many cars caught the pacemaker before Kingston was reached and, of course, had to trail him to Albany. In order not to enter too early a long halt was made several miles out, from which point the caravan entered in procession form. Pierces, Marmons, Stevens-Duryeas and Garfords were among those to enter with the pacemaker. Before these drivers could get their cars backd up to the curb in front of the Ten Eyck Hotel to await checking in, Burman, with his Peerless team, had arrived; Frank Nutt and Wagner with their Haynes had entered, closely followed by Aubel, in his Oldsmobile, a running mate of the Haynes machines; the Stoddard-Dayton runabout with a couple of others also entered. Van Tine's Garford lost its starting crank during the run and one or two complaints were heard regarding his passing contesting cars at too fast a clip, but no kicks were registered with the officials in regard to the matter so that no official notice has been taken.

D. B.

ON THE EIGHTH DAY—FROM ALBANY, N. Y., TO BOSTON

BOSTON, July 17.—Boston, well represented by the Bay State Automobile Club, gave the caravan a warm welcome to the "City of Culture." A squadron of cars flying its colors rode out to Auburndale and lined up to greet the incoming tourists and escort them down the broad esplanade, Commonwealth avenue boulevard, into town. Mrs. J. S. Hathaway bore a magnificent bouquet of flowers which she presented to Mrs. Marmon, who is riding in a Marmon of the Bay State team. At the Somerset, which is the tour headquarters, Mayor Hibbard welcomed the tourists on behalf of the city and Lewis R. Speare, ex-president of the club, greeted them in the club's name.

With good gravel roads through New York for 37.7 miles to the State line, and magnificent macadams the entire way across Massachusetts, save for a detour of some 22 miles between North Wilbraham and Warren, the day's run of 154 miles was easy of accomplishment in the 10 hours set by the schedule. There had been warnings of speed traps and inflexible automobile blue laws that caused fear that prison bars might be the bar to some one's perfect score. There was in consequence a close lookout for warning speed signs, but motorists en route only warned inquirers against Leicester. A very long, slow zone, much of it through widely scattered houses, was found through which the cars crept at a timid funeral pace. The outfit escaped the day's run with "unpinched ranks."

The day's run, however, put the Rochester Automobile Club's team out of the leading division. While crossing a rut at War-

ren, the rear wheel of Studebaker No. 25 collapsed. Its driver, W. G. Jones, had so long a wait for a new wheel he had 'phoned to Springfield for, that, though he was at the time an hour and a half ahead of his schedule and made a fast run into Boston, he arrived 1 h. 4 min. late. The new wheel, however, would have disqualified him anyhow.

No more peacefully picturesque run could be picked out than that of to-day. The route carried one into the Berkshires at historic old Stockbridge, where Jonathan Edwards preached to the Indians and wrote his famous philosophical essay on "The Freedom of the Will." Then came a ride down the Housatonic valley, widely famed for its scenery. "Jacob's Ladder" was coasted, or, more properly, bumped down. Then came the Connecticut river, leading the caravan into Springfield.

The Springfield motor car industry rose to the occasion, and hospitably stopped the tourists to treat them to a liberal luncheon, provided by the Fisk Rubber Company, the Stevens-Duryea Automobile Company and the Knox Automobile Company. All but one hurrying car stopped for it, too. It was the first midday meal most of the contestants had had on the tour, and was a welcome change in the daily life of the tourists.

Worcester reached, the splendid macadam boulevards extending for 40 miles into Boston was ahead, with speeding temptations hard to resist. The 10-mile homestretch was through a string of Boston's beautiful suburbs down the glorious Commonwealth avenue parkway to the Somerset.

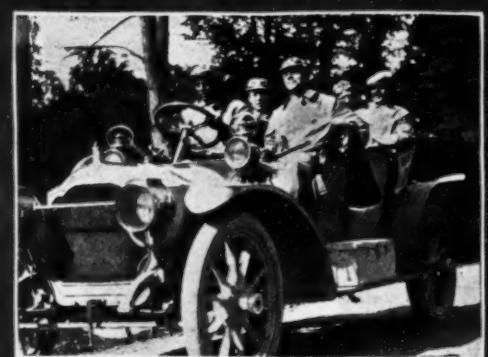
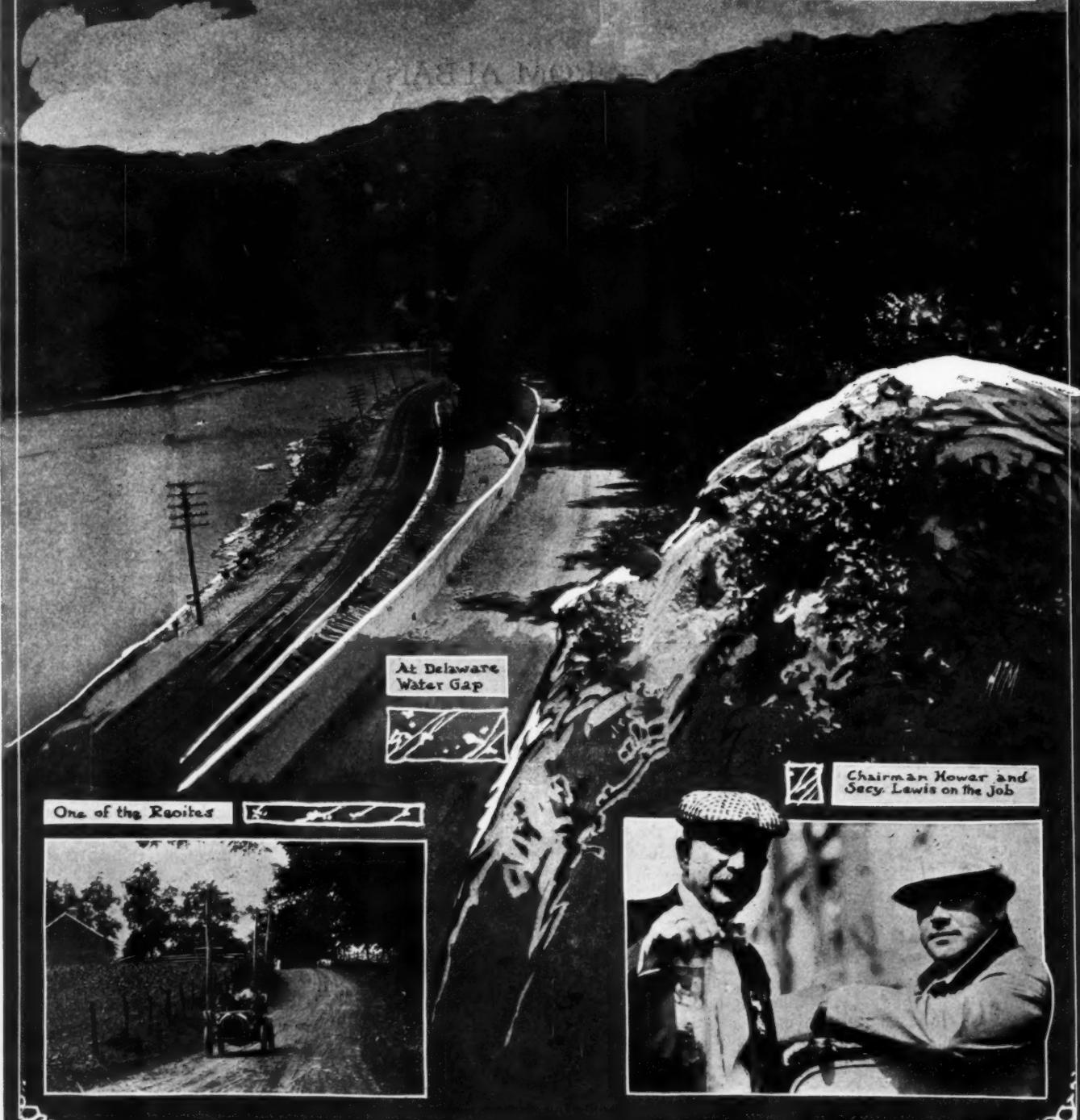
J. C. W.

WHAT HAPPENED BETWEEN ALBANY AND BOSTON

BOSTON, July 17.—To-day's run of 194 miles from Albany to Boston, by way of Springfield, changed the aspect of the Glidden tour contest by the elimination of the Rochester Club team No. 2, of Studebaker make up, the member of this team to fall by the wayside being No. 25, driven by Jones, which wrecked its left rear wheel when going down a curving grade in the town of Warren, 127 miles out of Albany. The wheel had suffered a partial fracture earlier in the tour, and was looked upon by many of the tourists to be due to go out before the end of the week. The accident occurred about the center of slightly curving right hill. A sidewalk crossed it about the middle of the descent, and it was at this point the wheel gave way, every spoke being broken or twisted off at the hub. P. Estey, one of the Chicago newspaper representatives on the car, was thrown out of the tonneau when the wheel broke, and suffered an injury to his left leg, but was

able to take a train to Boston, and will continue the tour. The car was pushed to the side of the road until a new wheel was secured, after which it continued the run to this point. The accident cost the entrant the full count of 1,000 points, which was a debit mark of 333.3 marks against the club, and gave it a credit standing of 666.6 marks. The car will continue the run as a non-contestant.

The elimination of the second Rochester team narrows down the Glidden trophy struggle to four teams, namely, Pierce of Buffalo, Peerless of the Columbus Club, Marmon of the Bay State Club and the Haynes-Oldsmobile team of the Chicago Motor Club. Prediction is rife here to-night that before Saratoga is reached at least two of these will be eliminated, leaving but a couple of perfect score teams for the committee to wrestle with when the end of the run is reached. This is largely a matter of speculation, and it is an even break among

Chairman's Pierce
in Full CryPackard Tatchs Notables: - - -
Jarus, Williams, Estep, Webmore

One of the Routes

At Delaware
Water GapChairman Hower and
Secy. Lewis on the job

the four remaining teams. In all of them the cars are running in the best possible condition, and the drivers have settled down to the strenuous task of forgetting speeding and keeping only the schedule before them. Three teams, Pierce, Peerless and Marmon, being composed of cars of one mark, are able to do more club or team work than the Chicago Motor Club team, composed of the Haynes cars, driven by Nutt and Wagner, and Aubel's Oldsmobile. It must be said of the only combination team remaining that excellent work is being done by these cars; the drivers are equal to every emergency, and the performance of the machines is the best that could be looked for in a contest of this nature.

Resourcefulness of the Factory Drivers.

To-day's run developed but few mechanical difficulties, due primarily to the easy schedule, of less than 20 miles per hour, with extra time for tire troubles. No. 16, Stevens-Duryea, suffering with a slight radiator leak, took advantage of the easy pace, and removed the radiator in front of a tin shop at Leicester, and with the aid of soldering iron welded the leak, which was at the base where the stud holding the radiator in position enters the base plate. An anxious mob gathered around to watch how quickly jobs of this nature can be done. Scarcely was the hood up before the two hose connections were off; a moment or two later the fan supports were detached, after which little remained but to lift the member out of position. By this time the two soldering irons were hot, the mechanician had the solder and acids ready, as well as a file to roughen the surface, and in a few minutes the radiator was repaired. At this juncture the *Motor Age* Reo, which had halted to watch the job, pushed ahead, and within an hour the repaired Stevens was up with it and pushing on at rapid pace towards Boston.

Another good example of the resourcefulness of the drivers and mechanics was evidenced entering Boston. Frank Nutt, in his Haynes, in taking some of the rough roads had struck the truss rod supporting his axle on a projecting rock and injured it. A halt was made in front of a blacksmith shop. In an instant Nutt had sized up the situation and decided the quickest way out of the difficulty was to make a new truss rod. The raw stock was soon cut to the required length, threads were cut on each end, the center bend was made, and then suitable nuts for the ends. This done, the positioning of it in the axle should have been a brief task, but was lengthened owing to the rod being a bit long. Once more Nutt's blacksmith ability was equal to the occasion. He hurried into the blacksmith shop and made a pair of heavy washers out of a length of small rod. These did the desired work, and the car was into Boston and had a long wait with the others before checking in time arrived.

How the Cars Are Groomed at Stops.

The stop at Springfield, Mass., 94 miles out of Albany, gave the public an excellent opportunity of observing the care bestowed on the cars by the driver and mechanician at each stopping point. *Motor Age's* Reo made an early start from Albany, and, averaging 20 miles an hour during the entire 94 miles, including the crossing of the Berkshires and climbing Jacob's Ladder, was into Springfield half an hour ahead of the chairman's car. With the chairman came a group of seven, five contestants and two press cars. Close behind Chairman Hower's Pierce was the Premier Century car, that had followed all the way out. Grouped behind were the two Marmons, followed by the entire group of five Pierce machines. It was most inspiring to see the two Indianapolis machines come in together, and more so to see the five cars on which Pierce reputation is staked enter in a bunch behind them. A little later came Burman with his No. 5 Peerless, and not far behind were two other Peerless machines. Mrs. Cuneo with her Rainier was an early arrival, and, on entering, she received her usual cheer. Scarcely had any of the cars halted before both sides of the bonnet were raised and the inspection

and lubrication began. The floor boards in nearly every case were lifted out and a careful investigation made, followed by copious use of the oil can. Oilers were filled in the majority of cases; the Franklins injected oil into the crankcases as well as looking after the valve actuating mechanism; Mrs. Cuneo was on her knees oiling steering gear parts, while her mechanic took the magneto off and cleaned it thoroughly. In two or three cases the mechanic got on his back under the machine and examined every nut or bolt that there was a possibility of working loose. One enthusiast, after having gone over the entire machine, was not content until he had rearranged all of the tools in the tool box, his only excuse being that they rattled a little, and he thought the rattle might interfere with his following closely the working of the different parts of the car.

Oil Is Being Used Liberally.

It can be noted that more oil than necessary is being used in the majority of cases, and when the cars pull out of a control they are immediately lost in a cloud of blue smoke. Spring shackles are oiled with the utmost regularity; so are steering gear parts, and at these half-way stops compression grease cups are given a turn or two. The majority of the drivers and mechanics, when asked about it, say it is not necessary, but supplement this with the remark, "I am not taking any chances." While oiling and inspection are being done, the third passenger in the car is superintending the filling up of gasoline and water tanks, the rules being modified to permit of this. Many of the cars do not take on water except at the night stop. When asked, Paul Gaeth, driving his Gaeth car, stated that he never takes on water except at night stops, when practically all of the cars do. There are exceptions to the rule. McGuire stated at Albany that he had not taken a drop of water between Buffalo and Albany. The radiator question is much improved over a year ago, when the sight of steaming radiators in the mountain work was a frequent one. This prompts a slight digression regarding water jacket space. Many cars built in level States have in past years had radiator and jacket sizes designed for continuous use on rolling and hilly roads, but which capacity was inadequate for miles and miles of mountain and low speed work. Previous Glidden experiences have rectified this difficulty. The value of previous tours has so improved the brakes of cars that not a single case of hot brakes and the application of water and oil has been ferreted out.

Throwing Things Proves Dangerous Welcome.

What might have proved a serious accident happened to James McLean, observer in No. 14 Franklin. When passing through West Springfield, one of the enthusiastic maidens who lined the roadside to applaud the tourists threw a small apple, which struck the glass of his goggle, breaking it and causing three of the broken pieces to cut the eyelid. A doctor stitched the cut, and with a well-bandaged head McLean completed the trip. One similar example to this occurred when passing through Springfield, O., in the tour last year. The chairman could do good service by having the local press in communities along the road give warnings on this dangerous practice.

Van Tine, in No. 29 Garford, had a narrow escape on one of the sharp turns. He sped down a long hill, the foot of which is a sharp turn. In order to avert a collision with a buggy, the brakes were all applied, and the car, after almost turning around, skidded into a ditch, tearing off a tire. No further injury was caused. Hurlburt, driving No. 31 Garford, took a bridge too fast and struck the railing, ripping off a portion.

The mountain traveling of the last week has impressed upon many of the drivers the value of a four-speed gear-set for mountain use. Americans have often ridiculed the four-speed gear-set on foreign cars, claiming it was quite unnecessary, but continued days of mountain work show how valuable the fourth speed is. It is useless to punish a motor by having to use a poor gear ratio. It is better policy to have a greater variety, easily obtained in selective gear-sets.

D. B.

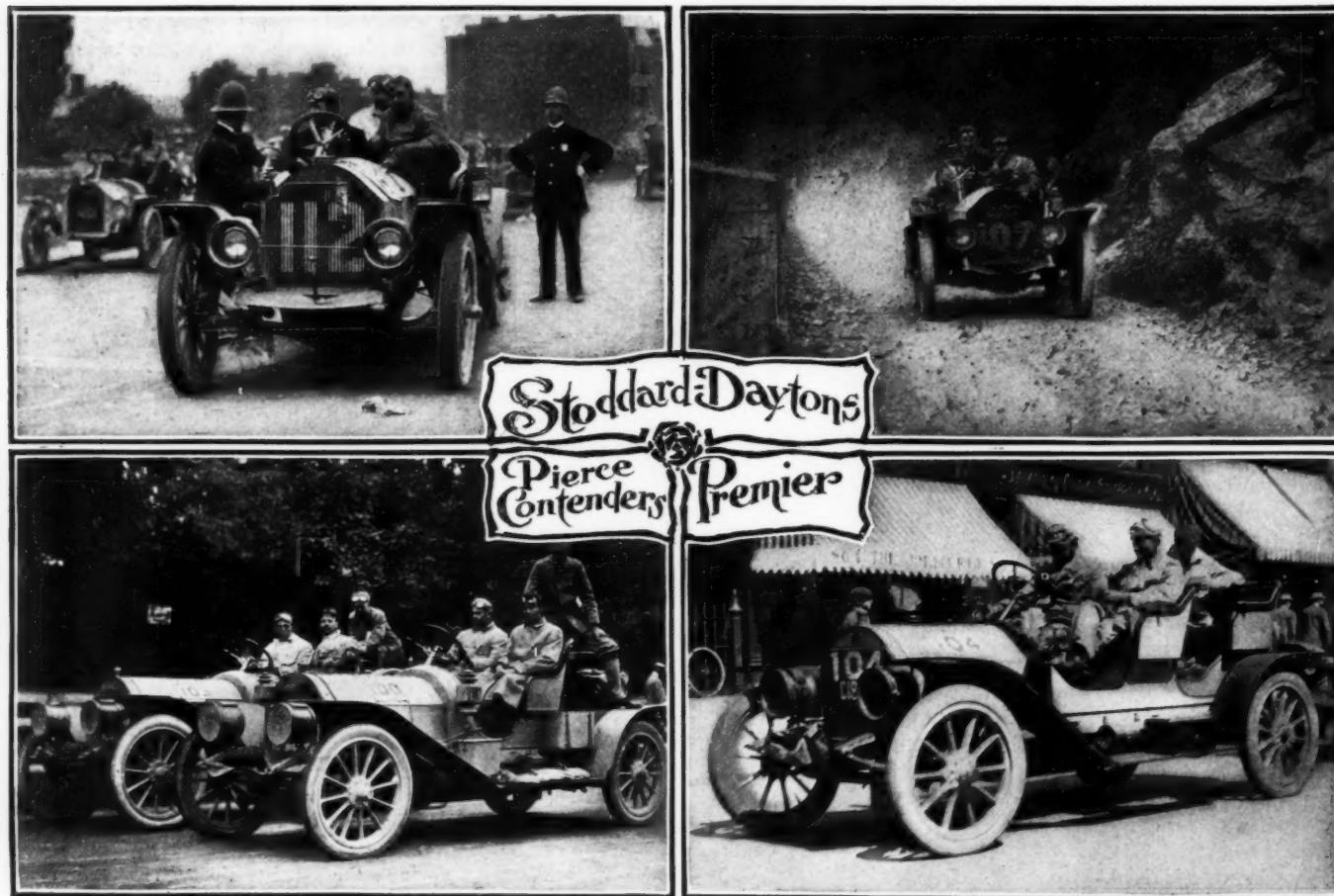
HOW BOSTON ENTERTAINED THE DUST-GRIMED CAVALCADE

BOSTON, July 18.—In mapping out its program for the entertainment of its road-weary and dust-choked guests, the Bay State Automobile Club decided upon a very welcome shift from land to water, and headed the caravan on a special trolley to the boat for Nantasket Beach. A refreshing hour's sail down the bay past the harbor's many islands landed the tourists at Boston's Coney Island. There the party split. Some sought Paragon Park and its varied Dreamland-Luna Park frivolities. Others hustled for the bath houses and soon had all the refreshment they desired in water ten degrees below normal.

Toward 5 o'clock, the hour set for the big clambake, the scat-

The clambake menu led off with steamed soft clams. Some of the inland motorists did not know that fingers were made before forks, but they soon learned and were as busy as any of the veteran shore diners. Then followed fish chowder, live broiled lobster, broiled spring chicken, chiffonade salads, ice cream, and all the "fixin's" that go with them. All were served piping hot by pretty white garbed waitresses, who with true Boston courtesy carefully looked after the requirements of the guests.

A hurrah of speech making wound up the dinner. They were all brief and to the point, took well, and were received uproariously. President Elliot C. Lee welcomed the tourists, and then



Leading Contenders for the Hower Trophy in the Fifth Annual A. A. A. Tour.

tered frolickers began to round up at Paragon Park's Palm Garden. They were a ready and hungry bunch that sat down to the number of 210 at 7 long tables with appetites whetted for the toothsome shore dinner that awaited them. The Mayor of Boston and the high muck-a-mucks of the tour and club were at the speakers' table and a score of ladies with their escorts were at another. Three tables were conspicuously unfilled, but the wait for their occupants was not long. To a lively quickstep by the band a hundred roisterers marched, lock step, to their places at the tables, amid great cheering. On the head of each was a diminutive merry widow hat. This started the fun going, which continued fast and furious throughout the feast. The band played and a soloist sang popular airs, but the song hit of the dinner was parody choruses, written by W. W. Caldwell, which were sung with enthusiasm whenever the band gave the cue. Throughout the dinner there was that spontaneous jollity which left no doubt that all hands were heartily enjoying themselves with the generous hospitality supplied by their hosts.

gave way to Secretary Fortescue, who acted as toastmaster. Mayor Hibbard, of Boston, received an ovation. Chairman Hower, Vice-President Lewis R. Speare, and Charles J. Glidden followed. Even Mrs. Cuneo briefly replied to the cheers for her, wittily remarking that a woman always had the last word. There were loud cries for "Sunny Jim," to which rosy, rubicund Dai Lewis finally responded. A newspaper man handed out Boston and the club a jolly that met with a sincere echo, and then Chairman J. F. Hovestadt, of the entertainment committee, brought the speechmaking to an end.

After the bake the caravan scattered among the shows and wound up a most delightful day on the beach with a hurrah twice on the last boat back to town.

The Bay State Automobile Club's entertainment committee was made up of J. F. Hovestadt, chairman; Lewis R. Speare, C. R. Pierce, J. S. Hathaway, W. K. Farrington, G. W. McNear, Elliot C. Lee, H. W. Whipple, H. W. Knights, J. Fortescue, A. P. Underhill, and J. C. Kerrison. J. C. W.

SCENIC BEAUTY ON NINTH DAY'S RUN IN THREE STATES

POLAND SPRINGS, Me., July 20.—All hands vote to-night's stop the most beautiful from a scenic standpoint of the tour to date. The Summit Hill Springs House is a comfortable, well-kept hostelry, built on top of a little mountain in the center of a broad valley. From the verandas one has spread out before him in all directions a glorious panorama of green fields, picturesque lakes, and thick woods bounded in the distance by mountains, and to the west by high peaks. The Westerners say it reminds them of Colorado toned down to peaceful greens and gentle outlines.

The Canada tour presented the novelty of foreign surroundings, but it did not compare with the present one for daily variety. Each day brings with it an almost complete change of environment. The journey of 154 miles began with a run across the Cambridge Bridge and then circled the Harvard University campus and buildings. The caravan then headed for the shore, passing through Revere, Lynn, and Swampscott. Next came Salem, the witch town, with its interesting old house and homes.

Just beyond Salisbury, the caravan entered New Hampshire, skirting the ocean at Hampton and Little Boar's Head. While rounding a point of the latter, several cars were halted by Captain William H. Jacques, a retired navy officer and engineer

of repute, who insisted on offering the passengers the hospitable greeting of cigars and whiskey. The captain showed the Packard press car party through his beautiful colonial home with its collection of rare old family furniture.

Portsmouth, a quaint old whaling town, where peace between Japan and Russia was arranged, was also interesting for its old houses and other reminders of past glories as a seaport, though it is still of importance through its U. S. Navy yard.

Crossing the bridge at Portsmouth, Maine was entered. As the tourists advanced, the scenery took on a bit wilder aspect. From Portsmouth the route turned inland and climbed gradually over rolling grades until a final steep climb brought the caravan to its destination.

The schedule of 8 hours set for the run of 154 miles did not bother the cars at all, most of them beating it by nearly an hour. Another day passed without any penalization of the perfect score division. It looks more than ever like a bunch of Glidden and Hower ties at Saratoga with 4 clean slate teams in the former and 5 runabouts in the latter after 9 days of touring.

The tourists found fine macadam in Massachusetts, excellent gravel highways in New Hampshire, and clay loam roads in Maine, which are quite a come down.

J. C. W.

ON THE NINTH DAY—FROM BOSTON TO POLAND SPRINGS

POLAND SPRINGS, Me., July 20.—With nine of the twelve running days of the tour over, four teams are still in the perfect score classification; as are five of the original fourteen Hower contestants and the two Glidden certificate cars. Not a single one of the contesting machines lost a point in the 154-mile run to-day from Boston to this summer resort in the foot-hills of the White mountains. Thanks to the good condition of the clay roads from Portland to this point, and to the 19.2 mile per hour schedule for the biggest car class and the 17.6 mile schedule for the smallest class, none of the cars had the slightest troubles during the day.

Not a little consternation pervades the broad corridors and spacious smoking and dining-rooms of Summit Hotel to-night over the possibility of a big run-off after the arrival at Saratoga, Thursday evening. With but three days running, and the road assurances as favorable as those of to-day, it is certain that at least three, and perhaps four of the Glidden teams, will be able to have the 1,000 points blazoned on their banners on arrival at Saratoga; there is no reason why an equal honor does not await the two Pierces, two Stoddard-Daytons, and one Premier in the Hower end of the duel; and it is equally certain that the two Stevens-Duryea machines will continue the reliable record that they have maintained since the departure from the starting point at Buffalo.

Altogether it looks to-night as if motoring in America is to receive the biggest boom of the decade, which it rightly merits, if four out of ten teams can land at Saratoga with perfect scores, and if, as at present, twenty-three of the original thirty Glidden aspirants, can reach the goal without a single black mark being debited to them.

To-day was not without its incidents. M. S. Bates, driver of No. 14 Franklin touring car, narrowly escaped what might have proven a serious, if not fatal accident. Bates took or attempted to take a turn near Ipswich, 38 miles out of Boston, too fast.

A few apprehensions were floating around the corridors late in the afternoon in the Premier ranks when Driver Preston with his one hundred century press car failed to report in with the other cars. All apprehensions were happily dissipated when later it was learned the car did not check out of Boston until 9 o'clock, and that when on the road it was playing a racing

game with the Rapid truck, which carries No. 40 as its official cognomen. The Premier party ate dinner at Rye Beach, in sight and within hearing of the Atlantic billows, and enjoyed a real tour. Driver Preston, who, in the tourist phrase, has been beating it a little during the tour, to-day settled down to that phlegmatic pace which a car embarked on a century a day for a hundred days should pursue.

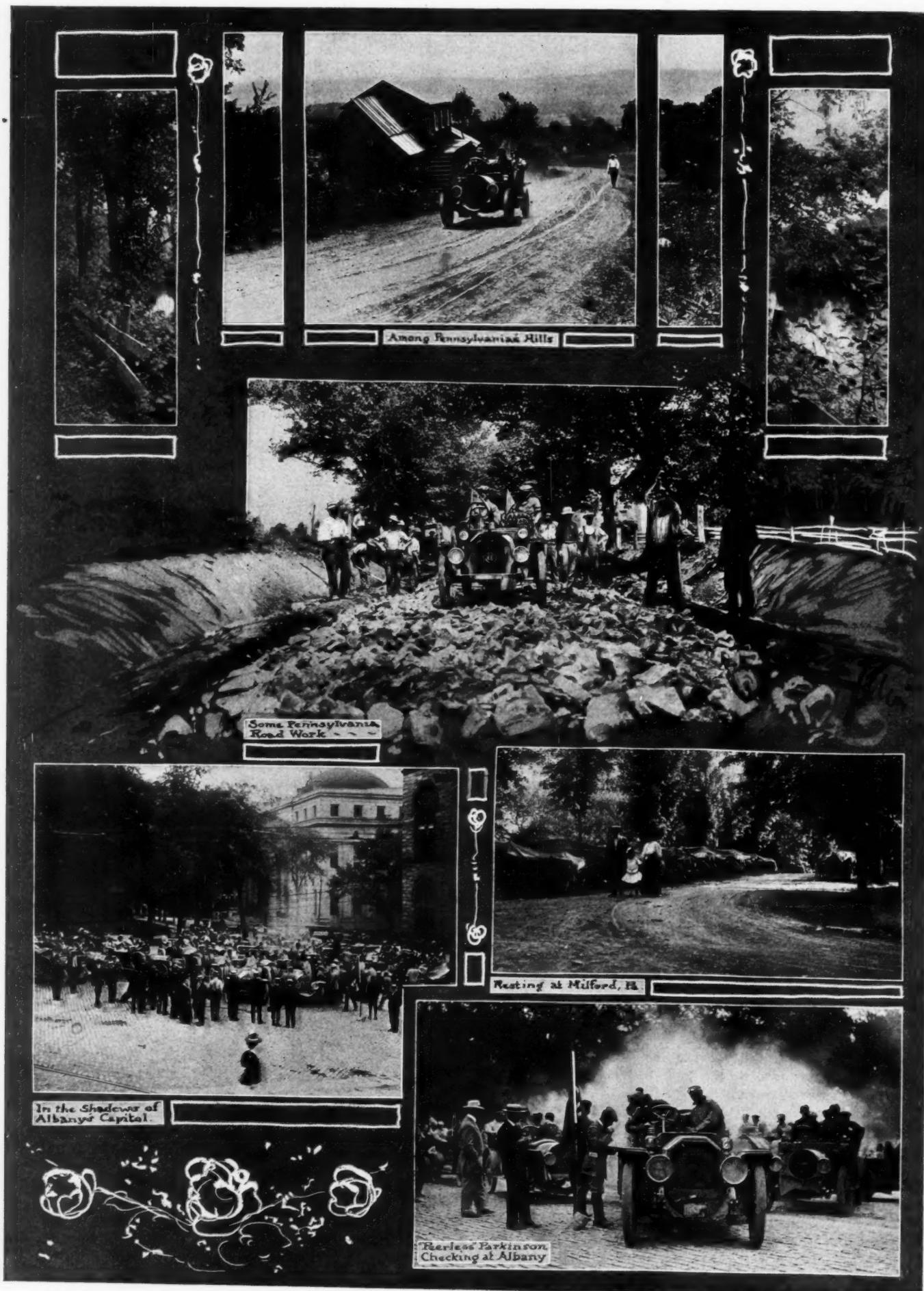
The Rapid truck, which has been daily covering the required schedule with its load of air bottles for inflating tires, has been receiving plaudits all along the line. To-day it got stranded by running out of gasoline and only the timely arrival of veteran Tom Fetch in his Packard press car saved it from a long wait by the roadside. Fetch did the good Samaritan act and brought the needed fuel.

The chairman's car was overtaken by the McGuire Pierce soon after leaving Portsmouth, 75 miles out of Boston, and close on the trail were Arthur Kumpf in No. 2 Pierce, Williams in No. 100 Pierce, Stevens-Duryea, Marmon, Mrs. Cuneo's Rainier, Thomas, No. 12 Franklin, and No. 10 Gaeth. These formed the advanced guard of the motoring caravan that started from Boston this morning, and after traversing New Hampshire, crossed a portion of Maine to this point.



Stevens-Duryea Contenders for Perfect Score Certificates.

July 23, 1908.



TENTH DAY IN PINE TREE STATE—POLAND TO RANGELEY

RANGELEY, ME., July 22.—At the end of to-day's 141.7 miles run, through sand at the start and on mountains toward the finish, the number of perfect scores teams had been reduced from four to three, Marmon No. 22, driven by W. Clark, being penalized 8 points for being 8 minutes behind the 7 hour 20 minutes schedule for the route. There had been trouble with a brake which was, rather unwisely, temporarily instead of permanently adjusted and later required the removal of a wheel to remedy. Oakland No. 28 had 42 points added to its previous 7 points of penalization through tardiness, owing to the breaking of the front spring.

In the Marmon matter, H. H. Rice, who rode with Clark, put in a protest, claiming that the racemaking car did not maintain the time schedule throughout and that the Marmon was thus held back. The protest was not allowed.

With two days more to go, 22 contesting cars remain with perfect scores. The tour is the most convincing demonstration of the reliability of American cars that has yet been given, and

all the more remarkable when the course and conditions of the test are considered.

The first dozen miles out of Poland the going was sandy and soft, but it improved when Lewiston was reached, and the beautiful fifty-mile run begun along the Kennebec river, through Augusta to Waterville, through which the 1906 tour passed en route to Rangeley. The caravan packed down the clay into broad ruts—which made the going quite smooth for the pursuers of the leaders. Shortly after leaving Madrid the upgrade climb began, and the country grew wilder. Picturesque lanes were passed, and there were splendid prospects of valleys and distant mountains from the hilltops looking back. Much of the going was through damp, cool woods until the Rangeley Lake House was reached. The cars were parked this time at the entrance to the hotel grounds. The 300 tourists put not only the hotels but the town's sleeping capacity to the test. Although the house was packed four to a room, fully one-third had to be roomed out in the village. J. C. W.

BAY STATE TEAM DROPS FROM THE PERFECT SCORE LIST

RANGELEY, ME., July 22.—No. 22 Marmon, driven by W. Clark, was penalized 8 points to-day, caused by a brake seizing when near Madrid, 18 miles from the night stop, the delay caused by the adjustment of the brake making the car ten minutes late in checking in. This car checked out at 7:50 this morning, 50 minutes after Chairman Hower's pacemaker left Poland. In spite of this lead, the Marmon, in company with several others, overtook the pacemaker at 77 miles and trailed him until the Marmon experienced its breakdown, when the car had 1 hour 25 minutes in which to finish the remaining 18 miles and repair the brake. The contention is made by the Marmon people, and is embodied in a protest to Chairman Hower, that it lost 15 minutes of its schedule trailing the pacemaker car from the 77-mile point, and because of this the entrant contends that the penalty should not be imposed.

The penalization of this car drops the Marmon team, entered under the colors of the Bay State Automobile Club, from the perfect score category, and leaves but three teams clean, namely: Pierce, Peerless, and combination Haynes and Oldsmobile.

One other car suffered penalty to-day. No. 28 Oakland, entered in team No. 2, Chicago Motor Club, lost 42 points, due to the breaking of a left spring when within four miles of Rangeley. The car was traveling fast and struck a treacherous road surface, with a covering of water and having a few deep ruts. The result was a complete break of the spring, which was repaired with fence rails and other procurables. The car checked in 44 minutes late. This car lost 7 points on the second day of the run, and now has a total debit of 49 points, which puts 16.3 debits against the club, cutting its credit to 983.6 marks.

William Hurtburt, driving Garford No. 31, did some fast running during the first two hours out of Poland, covering 73 miles in this time. Later he had ignition troubles, but checked in to-night well ahead of time.

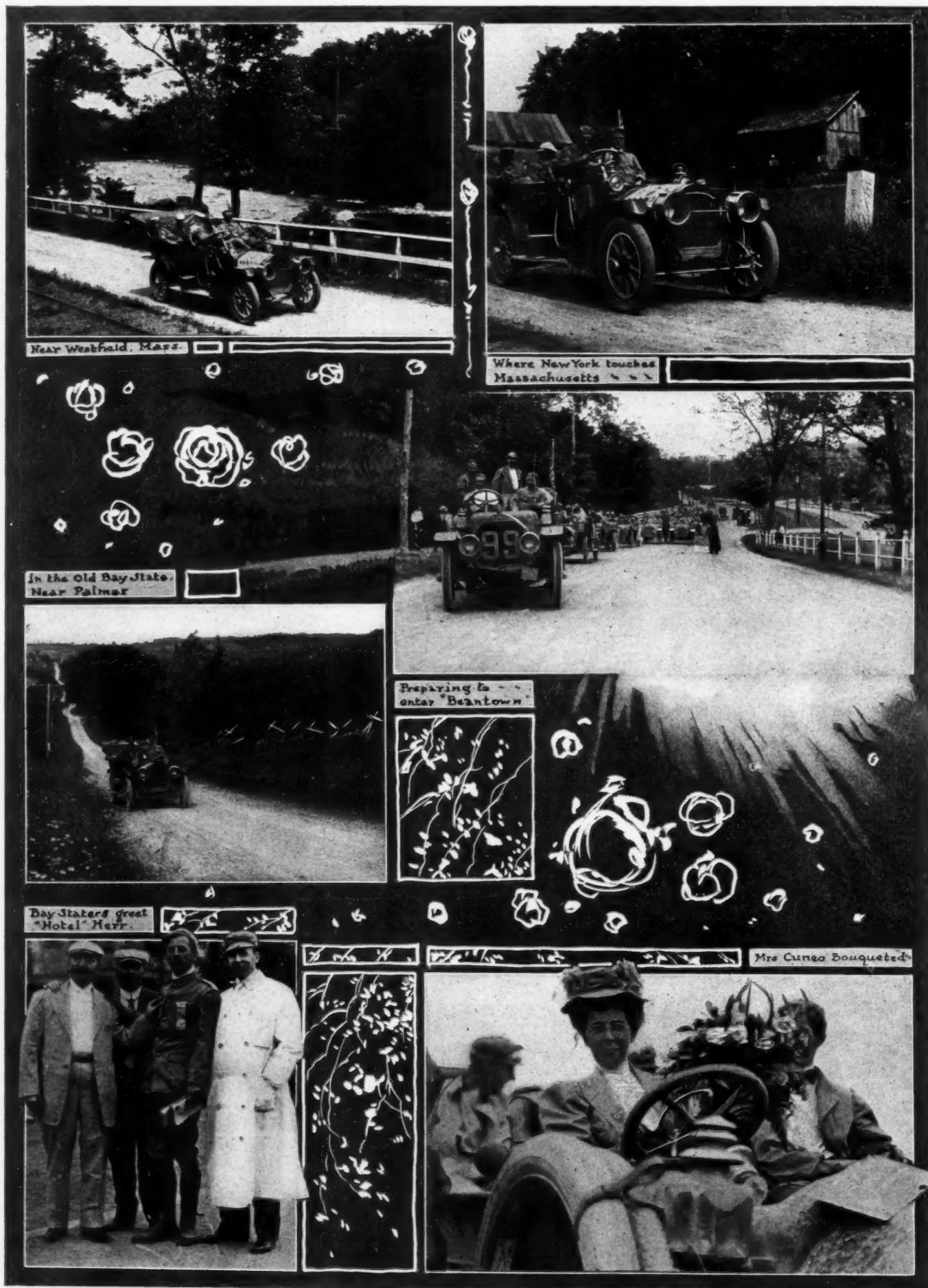
To-day's schedule of 141 miles in 7 hours 20 minutes gave an average of 19.1 miles per hour for the big cars and 18 miles per hour for the smallest Glidden contestant. The schedule was a very easy one. Complaints, however, are heard that the pacemaker set too fast a pace to-day through a few of the towns toward the end of the run and that while in the country districts he hit a very slow pace. It is natural to want to quicken over the good villa and town and city streets, because they are all cleared for action and waiting for the arrival of the Gliddenites, but it is bad policy. The last half of to-day's run was a spectacular procession through the tortuous roads of the moun-

tains. A dozen cars were in parade, separated from one another by but a few lengths. In this order they rolled over the undulations of the narrow mountain roads and made a sight that brought cheers from the few spectators who sought the sides of the hills to watch the cars go by.

It is rumored here to-night that Chairman Hower may start to-morrow but 15 minutes before the first car to check out, the aim being to prevent the cars having an hour or more after their arrival at the night checking point in which to overhaul the machine and get it in the best of condition for the run of the following day. The rules governing the tour permit him to start at any time previous to the checking out time of the first car, and it is certain that should he desire he can check out but one minute ahead of the first car out and check in but one minute in advance of it. A pacemaking schedule of this nature would eliminate all possibility of making up time lost on the road for repairs other than tires and might result in the elimination of one or more of the three perfect score teams as well as of the 29 perfect score cars in the total contest.

Many are the complaints against this scheme, but there is no reason why it can't be done; in fact, it is allowed by rules. It is more and more being imprinted upon the officials that in a future Glidden tour penalties should be imposed for work done on a car. At present it is possible to break a frame and repair it and finish perfectly, and it is possible to break any part that a duplicate can be made by the driver and mechanic and yet finish without penalty. This is not fair. Consider cars A and B. Car A breaks spring leaf, crosspiece of the frame, two frame truss rods, and other parts. Car B has not a single break. Obviously B is the better car, but according to the present rules car A gets as clean a standing as car B does. This should not be.

The facts are definite to-day of the cause of Stoddard-Dayton No. 109 catching fire around the carburetor on the Pittsburgh-Bedford run. It appears that this car has pressure feed for the gasoline and that in the gasoline tank is a standpipe rising from the base to within a short distance of the top. The pipe conducts the exhaust pressure to about the surface of the gasoline, so that it was vaporizing too readily in the carburetor, and when an explosion occurred in the carburetor it ignited the gasoline fumes around the motor. It was not short circuiting of the magneto that caused the fire. An order from the factory was received that this car be withdrawn, leaving only the two perfect score Stoddard-Daytons in the Hower struggle. D. B.



GOSSIP OF BIG TOUR AND THOSE PARTICIPATING THEREIN

A. A. Tourists May Hike West Next Year.—As is usually the case, the tour is hardly under way before the "rumor committee" begins to speculate and surmise as to where next year's tour will be. At times some unseen power constitutes this "bunch of loose talkers" a committee of the whole, so prevalent do the predictions about what is going to happen next year become. Gossip has it that in 1909, it will be Chicago's turn to act as the starting point, and for a time at least the roads east of the Mississippi will be abandoned, Denver being the goal of the 1909 Gliddenites. No one of the proposed routes that have ever been given creation in the seething gray matter of some of these before-handed thinkers, has served to arouse quite as much interest as this talk about getting into new country next year. Come to think of it, why not? The A. A. A. Reliability Tour is an American institution and there is nothing sectional in its character, and now that repeated trans-continental tours and political convention jogs have shown the feasibility of the project, there seems to be no good reason why the West should longer be neglected. The talk current about the project has even advanced to the stage of outlining the plans in detail. There will be no hustling for accommodations and no one can insist on having "one with a bath," for the caravan will travel circus style and erect its own tents at each night stop. There will likewise be the "grub wagon" and the other concomitants of a well-regulated commissary department. Evidently some one has been thinking hard on the subject. Whether the thoughts of the powers that be are along totally different lines, and the plan of giving the West a show is only a little of the superfluous rarified atmosphere of which there is always such a copious supply, remains to be seen.

Some Statistics of the Tour.—The following are a few of the statistics relative to the features of the forty-six cars contesting in the Glidden, Hower and Glidden certificate ranks:

Chain drive, 3; shaft drive, 43.
Four-cylinder, 32; six-cylinder, 9; two-cylinder, 5.
Water-cooled, 42; air-cooled, 4.
Friction transmission, 2; planetary transmission, 7.
Progressive sliding, 12; selective sliding, 25.
Jump spark ignition, 35; make-and-break ignition, 11.
Opposed motors, 3; vertical motors, 43.

The three Marmon cars competing are all of 1909 vintage, and carry four-cylinder motors, with 5 3/8 by 5 inch cylinders, the rating given out being 50 horsepower. The new rear axle made by the company is one of their features. It has the differential housing fitted with a circular plate at the rear through which the differential gears complete can be removed. The brakes are internal bronze, shoes faced with a fabric cover which are located side by side and expand within a 17-inch cast-steel drum 4 inches in width, so that each expanding shoe has a width of almost two inches. The adjustment of each set is by a screw which acts within a worm sector carried on the shaft that has the expanding cam on it. The double three-point suspension is retained, but modified in that the motor and gear-set are carried on a cradle, which at its front rests on the front springs and at its rear is trunnioned on a dropped crosspiece of the frame which carries the car body.

Around Historic Boston and Vicinity.—Packard Seventeen was a phrase coined during Sunday while a party of fourteen press representatives, at the request of E. Ralph Estep, publicity manager of the Packard company, was entertained in three Packard cars by being shown the points of historic interest around the Hub on a 100-mile jaunt. With Russel Huff, Tom Fetch, and Fred C. Graves of the Boston Packard agency as wheelmen, the run through Boston and suburbs was made. Crossing into Cambridge a glimpse of Harvard University was obtained; the route continued to Concord, where still stand the Emerson and Longfellow homes, and beyond were visited the battlegrounds where was lighted the match that culminated in

the great Revolution. Every mile or so along the road are to be found tablets or monuments marking incidents in the war for independence; by the roadside stand houses erected previous to 1775 and in which figured episodes that are now links in the great chain of Revolution events; and in every town are monuments and parks consecrated to the memory of those who fought and died. From Concord the route led to Lexington. Circling at a ten mile radius west of Boston, the course embraced Salem, with its "House of Seven Gables"; Marblehead, with its old fortifications; Lynn, the home of the shoe industry; and Chelsea, that so recently was nearly entirely destroyed by fire. A stop was made at Bunker Hill monument.

Selden's Record Run to Bedford Springs.—Through the breaking of a front spring on the Selden entrant in the A. A. A. tour, competing under the colors of the Rochester Automobile Club, a record run was made over the 450 miles intervening between Rochester and Bedford Springs. The driver's wire for a new part was received too late to make a shipment by express, so George B. Selden, Jr., decided to deliver the part in his own car. With Driver Fred Wilson at the wheel and Superintendent John Siegel beside him, while Mr. Selden and Head Tester Charles Young occupied the tonneau, the party left Rochester at 1:20 Sunday morning. Cambridge Springs was reached 11 A.M. Sunday, and, after a heavy shower that made slow going, the party rolled into Pittsburg at 5 P.M. Here the Pittsburg Automobile Club supplied maps and a guide, and Bedford Springs was reached at 6:30 the next morning, only to find that the new spring could not be used without disqualifying the car. Temporary repairs were made with the aid of four nuts, but as they come under the head of "finished material" the Selden entrant lost its standing after all, but continued for a certificate and will go through to Saratoga.

SONGS OF THE A. A. A. TOUR.

(Tune, "School Days.")

Tour days, tour days,
Tough old Glidden tour days,
Schedules arranged by arithmetic,
Up to the hubs in the mud we stick,
Seventeen hundred miles or so
Gosh, how we made the old car go,
And didn't we take a header though
When we had a couple of skids.

(Tune, "Merrily We Roll Along.")

Merrily we eat the dust,
Eat the dust, eat the dust,
Merrily we eat the dust
'Cause Hower says we must,
'Cause Hower says we must, 'cause Hower says we must.

(Tune, "Oh, Mr. Dooley!")

Oh, Mrs. Cuneo, Oh, Mrs. Cuneo,
The greatest woman driver that we know,
She keeps a going; she makes a showing,
Does Mrs. Cuney-uey-uey-O.

(Tune, "I'm Afraid To Go Home After Dark.")

Listen here, Hower dear,
I'm afraid to check in after dark.
Ev'ry day the papers say
That a car hit a tree in the park.
I'm on the tour of the dear A. A. A.,
Trying to set the spark,
Oh, I wish I were home,
For I'm afraid to check in after dark.

(Tune, "The Garden of Love.")

Won't someone kindly tell me,
Won't Hower answer why
To me this tour's the limit,
I'll soon "cash in" and die.
Nine hundred points against me,
And I should like to know
Why they make a lemon of a car on these roads,
Where only the goats should go.

NATIONAL TOURS OF THE A. A. A. WHICH HAVE PRECEDED

1904: The first annual tour of the American Automobile Association, starting July 25, 1904, had as its objective point St. Louis, where the Louisiana Purchase Exposition was being held. Sixteen machines started from New York and joined themselves to eleven others from various New England towns. The ranks of the travelers were swelled by additions from all points, continuing by way of Albany, Utica, Syracuse, Rochester, Buffalo, Erie, Cleveland, Toledo, South Bend, Chicago, Pontiac (Ill.), Springfield (Ill.), to St. Louis. At the same time another portion of the tour was being run over the National Highway and through Columbus, Indianapolis and Terre Haute to the Exposition City, bringing the total number of participants to 108. Practically all the machines reached St. Louis, the tour being more of the nature of a combined run than a competition.

1905: Thirty-two automobiles competed in the 870-mile Association tour in 1905, the first contest for the Charles J. Glidden touring trophy. Starting from New York, the itinerary was through Hartford, Boston and Plymouth, N. H., to Bretton Woods, and returning by way of Concord, Worcester and Lenox, Mass., to New York. Percy P. Pierce was awarded the trophy. Others finishing with clean scores were Ezra H. Fitch (White), Ralph Coburn (Maxwell), S. B. Stevens (Darracq), and J. C. Kerrison (Cadillac).

No official observers were carried, the contestants as a whole observing the performance of the competing cars, and at the end of the tour voting for the three entrants whose cars, in their opinion, had made the best records. In addition, the Glidden Commission employed a formula which took price, equipment and general touring conditions into consideration in awarding the trophy. First-class certificates were given to twenty-two contestants who completed the tour and arrived at all night controls before the official closing time. Four second-class certificates were awarded to others who completed the tour, but failed to make one or more of the controls in time.

1906: The third annual Association tour in 1906 and the second competition for the Glidden trophy, was a 1200-mile run from Buffalo to Bretton Woods, N. H., by way of Utica, Saratoga, Elizabethtown, Lake Champlain, Montreal, Quebec, Jackman and Rangeley, Me. Forty-eight machines started, 13 secured perfect scores, 19 completed the journey with a greater or less number of penalizations, and 20 retired at various points on the journey. Of the six cars competing for the Deming trophy two obtained perfect scores and four were penalized. The trophy was awarded to C. W. Kelsey, driving a Maxwell.

The thirteen with perfect scores for the Glidden trophy were: Percy P. Pierce (Pierce), A. E. Hughes (Pierce), P. S. Finn (Pierce), W. E. Wright (Knox), George Soules (Pope Toledo), Frank E. Wing (Marmon), G. M. Davis (Thomas),

C. F. Barrett (Columbia), L. J. Petrie (Stearns), Charles Burnham (Peerless), W. C. Walker (Pope Hartford), Ernest Keeler (Oldsmobile), G. G. Buse (Packard). Since no winner had evolved and Percy Pierce was one of the perfect score performers, the trophy, according to the deed of gift, remained in the possession of the club which he represented.

1907: The route of the fourth annual A. A. A. tour was from Cleveland, O. (July 10), to Toledo, South Bend, Chicago, South Bend, Indianapolis, Columbus, Pittsburg, Bedford Springs, Baltimore, Philadelphia, New York (July 24). Distance, 1,570 miles. Forty-nine touring cars competed for the Glidden trophy, 12 runabouts entered for the Hower trophy contest, and 14 cars accompanied the tour on various services or as non-contestants. Both contests were run on a daily time schedule, with penalizations for replacements according to the catalogue value of the parts used. The Hower trophy was for individual car performance, the Glidden trophy for the best club showing, with certificates in addition for all cars finishing with a clean score. Clubs represented in New York, Cleveland, Chicago, Buffalo, Pittsburg, Detroit, A. C. A., and Westchester. The Buffalo team captured the Glidden trophy. Touring cars finishing with clean scores were Pierce (4), Thomas Flyer (2), White (2), Peerless (2), Packard, Haynes, Welch, Reo, Walter, Berliet, Royal, Tourist, Premier, American Mors.

A Stoddard-Dayton and a White steamer tied for the Hower trophy. On an additional test being imposed, the White proved the winner.

CHARLES H. DALE DIES SUDDENLY.

LARCHMONT N. Y., July 21.—Charles H. Dale, president of the Rubber Goods Manufacturing Company, and a director of the G & J, Morgan & Wright and Hartford Rubber Works Companies, succumbed suddenly to heart disease at his summer home here to-day. He was 56 and is survived by his mother and a widow and daughter.



GLIDDEN PLANS ORGANIZATION FOR AERIAL TRANSPORTATION

BOSTON, July 20.—Charles J. Glidden was in this city only a short time during the stop of the A. A. A. tour, one section of which is competing for a trophy donated by him, but he was here long enough to set things aeronautical going in a most vigorous way. Hardly had he left the city this morning with Chairman Hower than the announcement came out that at his request a leading firm of lawyers was drawing up incorporation papers for a concern to be known as the American Aerial Navigation Company to be created for the purpose of manufacturing and operating aerial devices and the establishing of aerial routes for the transportation of freight and passengers in the United States, Canada, and Mexico. The announcement says in part:

"Mr. Glidden anticipates that within the next eighteen months the new company will be carrying passengers and merchandise by the 'air-line' between New York and Boston—either by use of the dirigible balloon or aeroplane. He believes that with relay stations near Springfield and New Haven the trip can be made three hundred days in the year, the one from Boston to New York during daylight and from New York to Boston in seven or eight hours.

"The first experiments will be made with small dirigibles with

a capacity of one or two passengers in addition to the operator. Stations will be established close to the street car lines on the outskirts of the cities, with suitable facilities to house the dirigibles and supply any loss of gas en route. An inexpensive plant to manufacture hydrogen gas will be in operation at each station. As the dirigibles will travel at an average height of 500 to 800 feet, very little loss of gas should take place. Pending the establishment of the air lines, and to familiarize people with aerial voyages, ascensions will be made from Pittsfield and North Adams in the spherical balloons. The parties interested in the new company hold options on a large manufacturing plant of aerial apparatus, and are in negotiation with parties for the manufacture of dirigibles.

"The form of dirigibles to be adopted will depend upon the success of the experiments now being carried on by the governments of the United States and France. 'Aerial travel,' says Mr. Glidden, 'will be, when thoroughly established, the cheapest and safest form of transportation.'

It is significant in this connection that several years ago Mr. Glidden attempted to organize a balloon club in Boston long before any similar steps had been taken in other American cities.

POPE AFFAIRS BEING STRAIGHTENED OUT.

HARTFORD, CONN., July 20.—Application will be made to-morrow by George A. Yule and Albert L. Pope, receivers for the Pope Manufacturing Company, to Judge H. J. Curtis, sitting in the Superior Court, for the issuance of such orders as may be necessary for the continuance of the business for four months from August 28 next. They will also apply for an order for the transfer of certain assets from this State to New Jersey in order that another 25 per cent. dividend may be paid to the creditors. Vice-Chancellor Howell is credited with the statement that he thought the receivers would be able to pay off 75 per cent. of the approved claims within four months. This does not include the Unzicker claim, said to amount to \$575,000, for the rental of certain factory premises in Chicago, and the status of which has not been definitely settled as yet.

The creditors' committee is circulating a letter calling attention to the petition to be presented by the receivers to Vice-Chancellor Howell at Newark, N. J., asking for instructions as to the continuance of the business. It is said that counsel for the stockholders has urged that \$800,000 of the creditors' money be employed to continue the business for one year, contending that this could be done at a profit. This is strenuously opposed by the creditors' committee, on the ground that there is already in excess of \$1,000,000 in hand, and that, whether it was conducted at a profit or not, the benefit would accrue to the stockholders, and not to the creditors. The latter are being advised not to sell their claims, as they will shortly be paid in full, with 6 per cent. interest.

BRITAIN'S FOUR-INCH RACE WELL ENTERED.

LONDON, July 18.—Britain's limited bore race, popularly known as the Four-inch race, will unite at least 35 competitors on the Isle of Man course Thursday, September 24. Continental Europe is represented by 14 cars and the home country by 21. As this is the first occasion on which England has held a pure speed event on the road since the Gordon Bennett race in Ireland, it is being watched with considerable interest, and is certain to unite a large gathering in Manxland during the last weeks of September. The list of cars engaged is as follows: Rover, 2; Hutton, 3; Arrol-Johnston, 3; Hillman-Coatelen, 2; S. C. A. T., 1; Vulcan, 1; Coventry-Humber, 1; Beeston-Humber, 2; Thorneycroft, 3; Calthorpe, 2; Deasey, 2; De Dion Bouton, 1; Darrac, 3; Metallurgique, 3; Berliet, 2; Vinot, 2; Westinghouse, 2.

STANDARD OIL WANTS ITS OIL USED.

INDIANAPOLIS, IND., July 21.—It is reported that the Standard Oil Company has decided it will control the oiling of roads and city streets in Indiana or that it must stop all together. In other words the company is alleged to have sent forth the word that unless Standard oil is used none will be used at all.

At Muncie, where extensive experiments have been made in street oiling this year, indications are that oiling will have to be stopped. So far oil has been purchased in the Muncie oil field at 99 cents a barrel, whereas the Standard Oil Company is demanding that its oil be used, which would have to be shipped to Muncie at \$1.59 per barrel, f. o. b. cars in Kentucky.

Producers in the Muncie field say the Standard Oil Company has issued an ultimatum that it will no longer accept their product if they continue to sell to the retail trade, and incidentally to the men who have the oil sprinkling contract in Muncie.

WITHDRAWAL OF SANCTION CLEARS MATTERS.

PHILADELPHIA, July 20.—What promised to be somewhat of a racing muddle in Quaker city automobiling circles, has been averted by the prompt revocation of the sanction granted the Norristown Automobile Club for a meet to be held at the Point Breeze track next Saturday. The sanction was granted without the consent of Charles J. Swain, local representative of the American Automobile Association, and an ex-president of the Quaker City Motor Club, and has since been revoked on the ground that the Norristown club was attempting to go out of its territory to hold a meet. It is understood that the Quaker City club will hold another meet in August and a fall event in September, owing to the success which attended the last races at Point Breeze.

OHIOANS WANT TO USE AUTO TAX ON ROAD.

TOLEDO, OHIO, July 20.—A well concerted effort, at present headed by Col. Webb C. Hayes, is being made to utilize the income from the State automobile tax law in the erection and maintenance of an automobile road from Columbus to Lake Erie over the oldtime trail taken by General Harrison in 1815 during his memorable march during the second war with England.

The proposition is now in its early formation and if it meets with the approval of automobile clubs in the State and other automobilists, the State legislature will be importuned to use the income in this direction.

HOW 'TIS DONE IN PARIS.

BY GEORGES DUPUY.

MY friend Norbert, who dines at the Avenue de la Grande Armée restaurant, is a dealer in second-hand automobiles. (I call him a dealer in automobile curiosities.)

Sad to say, that second-hand business of asthmatic motors, repainted bodies, and plastered tires, has gone to nothing on account of the quick manufacturing and reasonable prices of nowadays. The big "constructeurs" have driven the "nightingale agents" away from the Porte Maillot. But the cute, the clever ones still remain around and make a pretty decent living out of the combinations. My friend Norbert is one of those.

He was ordering the menu, and I had just unfolded my serviette, in front of him, the other day, at that Grande Armée place, where they all come, when a young messenger of the Postes et Télégraphes, his cap in his dirty little hands, remitted to him a telegram with five telegraphic orders for five thousand francs each. Norbert signed the blue slip with a gold-mounted fountain pen, gave a forty-sou piece to the little chap, and said to me, with that dreaming air of his, while reading aloud the message: "What do you say?—er—er. Tool box well received—two more 920-120—er—Madame delighted—Very well! What?—Oh!—that's a customer from Vichy, at whom I bombarded a 40-horsepower Liérich. A bird, I tell you! The blessed thing cost me an awful lot, garage, gasoline and all, since Easter. Now, mon cher, how about some of that 'navarin bourgeois,' with a bottle of Chablis?"

The coffee was served, hot and a little foaming in the cups, when a long and slender young man, with an incredibly high collar which reminded of the Chinese stocks, extended to my friend, over the table, a military white-gloved hand and pronounced, with an angelic smile:

"My dear Mr. Norbert, tell me, if you please; I have an offer for a 20-30 Bernault 1906, long chassis, landaulet by Schwalbacher, not used for five hundred kilometers. What do you think it is worth?"

"Don't know," said Norbert, gulping down his demi-tasse while talking. "It depends. At all events I can't positively consider anything just at present. I'm stuffed with a thousand bargains like yours. But I will let you have the American, if you want. How about fifteen louis?"

"Why, yes, that will do, my dear Mr. Norbert," replied the long, slim gentleman. "Send him along to-morrow morning at half-past nine."

"Are you going to tell me," said I, amused, "who on earth is that 'American' whom you 'let people have' for 300 francs?"

"My good man," said Norbert, with a comical emphasis, "first of all things, don't get excited. This world is great—and you have traveled little. The honorable gentleman in question—but here he comes! Look pleasant now. Hello, Frank!"

The man thus called approached. He was a handsome looking young fellow of about thirty; very "American" indeed in appearance and evidently clothed by the smartest tailor of Fifth avenue. Norbert introduced us.

"Mr. Frank McDermith, of Pittsburg: Monsieur Georges Durand, one of my good friends."

The American shook my hand cordially, and, bending his tall body over my shoulder, yet keeping the correct and rigid attitude of the well-educated men of the New World, he began muttering to Norbert, in the lowest, the commonest Parisian slang, a discourse, hardly translatable in any language.

"How is your sweet self, sir? Yes, sir! We've got it. We've got the big brute for six 'notes.' I think it's pretty poor. What d'ye say? Twenty-five louis for my sweet self! Don't ask me if Julot, the old hoss, he was tickled to death when we took it away from him! Gee! A duck nobody wanted. She plays an awful tune of drum when you crank her, she kicks like a mule and consumes twenty liters of gasoline by the hour. Never mind! The crazy fool who handed the dough is happy."

"That's good," said Norbert, visibly indifferent to the abundant talking of the queer individual. "Now don't forget that you

have an appointment with the viscount to-morrow morning at nine-thirty. I proposed fifteen louis."

"Right you are! I'll be there. See you to-morrow."

"Now come on!" said I to Norbert, laughing with him. "That fellow is certainly the greatest number I have seen for some time! And the beauty of it is that he is just as much of an American as Adolphe, the head waiter, might be!"

"How clever!" replied Norbert, ironically. "They can't keep anything from you! In fact, the gentleman's name is Désiré Desclavin. He is the son of Pierre Desclavin, an old joiner of the rue de Charonne, where my friend himself got born, some twenty-eight years ago. In our business the difficulty is not 'the sale.' A good man, who knows how to smell the wind, always sells easy enough. The main thing is to buy."

"For instance, the day before yesterday, I heard that the manager of 'Paris-Moteur' garage, a new establishment, had just received for sale, a big 50-horsepower landaulet de voyage Bannard 1907, about new, all accessories, and three rear Rouge ferré Continentals packed on the top. The proprietor of the car, obliged to leave immediately for Brazil, wanted 15,000 francs for it, a price already interesting to me, as I had a customer willing to pay 16,000 for the very same type, second-hand. But I wanted to get the limousine for 12,500. You understand? The intermediary would hear nothing of the kind, saying that he had received formal orders not to cut a sou on the bargain."

"I, however, made him sign an agreement by which he would allow me, his colleague, a commission of 500 francs if I'd bring him a buyer with the cash. You get that clear, don't you? Then, here is where my false American appears on the stage."

"I had, the night before, telephoned to the manager of 'Paris-Moteur' that I had found a customer, a rich foreigner, and that the gentleman and I would be at his garage the next day at 10 o'clock. Right after that first telephone message I sent for Désiré Desclavin, whom I hire all year long on an exclusive contract, told him in a few words of what was the matter and filled his beautiful morocco pocketbook with thirteen brand new thousand-franc bills, just drawn from the bank."

"I was at the garage on the minute. He, Désiré, arrived a good quarter of an hour late, in a taxicab, swell as the swellest New York clubman; clean shaved, brown hat, brown suit, low patent leather shoes, mauve silk tie and stockings. The manager, hat down, met him at the gate and led him to the big car, which they had washed and cleaned and polished all morning. Playing my part, I had already opened the door of the limousine to show 'Mr. McDermith' the inside equipment, but, without condescending to look at me, Desclavin said in a peremptory tone, and with the most perfect English accent:

"'Mer-ci, Messieus. I shall see for myself. I am not a beginner in the automobile. Will you please crank the motor?'

"He turned twice around the car, looked underneath, lifted the bonnet, stopped the engine by cutting off the current, like an old chauffeur, and rudely addressing the owner of the car—a young and dull-skinned hidalgo who was witnessing the scene with a supremely indifferent air, Desclavin said: 'Tell me the truth. You have traveled with this motor car over ten thousand miles?'

"The other swore by his ancestors that such were not the facts; but Désiré, without according him a glance, took out of his pocket and laid on the varnished mud guard of the limousine his thirteen thousand franc bills, saying with his same accent:

"'Voua-ci. Treize mill francs. You take that money or I will sign a check on the American Express, if you like it better. That is all what it is worth, Messieu. No—no use—inutile! Don't make any gests nor raise your shoulders, or I shall see myself obliged to pocket my money again. This automobile he is the eighth I buy in my life, you know. This one he is for my mother, in the South. You know what my mother she pay in America, for one 40-horsepower like that? Bien! my mother she pay only twelve mill francs for one quite new.'

"Of course the blue notes of the Bank of France produced their irresistible effect, and my commission duly pocketed, I took out for 12,500 francs, the automobile sold to my customer, Mr. Frank C. W. McDermith, of Pittsburg, Pa., U. S. A."

FUTURE OF GRAND PRIX SEEMS TO BE IN DOUBT

PARIS, July 20.—In killing the Gordon Bennett and substituting therefore the French-cooked affair since known as the "Grand Prix de France" the French trade and the Automobile Club of France, which are closely intertwined in racing, bravely determined to grasp the bull by the horns and to dictate that all international racing held in France thenceforth should be *à la Française*. The French flavor was made so strong that nothing foreign was to be permitted to crop out. *Hélas*, it is next time to grasp the bull by the tail, for then it will not be so hard to let go when the animal stands for Italian or Teutonic superiority. France and Frenchman generally have been bitterly disappointed in the outcome of the carefully planned Grand Prix. Instead of being a mild and tractable animal that could be kept under the tricolor without difficulty, this creature permits itself to be robbed of all its honors by France's dearest enemies and becomes transformed into a white elephant, that she would like to kill but can't.

The outcome that was so generally predicted, once it became known that France had been utterly swamped on the Dieppe circuit, has already come to pass, for at the meeting of the Commission Sportive, held here to-day, a proposal to abandon the Grand Prix was broached by the Marquis de Dion and was supported by a number of his friends, but the preponderance of sentiment was against it, for defeat still rankles too strongly. Had it been any other nation but Germany, such a thing might have been possible on the ground of chance or accident, but there can be no sidestepping the avalanche under which the tricolor disappeared on July 7. The cry of "Let me out and I won't do it again," that comes from beneath the heap, is indicative of a renewal of the same sentiment that was responsible for the killing of the Gordon Bennett, except that now no choice remains but to attempt to retrieve the honors lost, or ignominiously retire. The "I don't want to play any more" faction has already come to the surface in to-day's meeting, and it is probable that if it had not been so strongly opposed, the obsequies over the Grand Prix would have already been a matter of history. The feeler thus advanced attracted too much attention to itself, however, and after an informal discussion, the project was tabled until the September meeting.

Growth of Prolonged Speed.

An interesting table is herewith given, showing the growth of prolonged speed for the last eight years in all the principal international events held in Europe and America:

Gordon Bennett Race.					
Year.	Driver.	H.P.	Course.	Distance.	Average.
1900	Charon	20	Paris-Lyons	310	9:09:00 37.5
1901	Giradot	40	Paris-Bordeaux	344	8:51:50 36.9
1902	S. F. Edge	40	Paris-Innsbruck	366	10:41:58 34.1
1903	Janatzky	60	Ireland	367	6:39:00 55.5
1904	Thery	75	Taunus, Germany	347	5:50:08 59.6
1905	Thery	90	Auvergne	310	7:02:42 48.6
Florio Cup.					
1905	Raggio	120	Brescia	312	4:46:47 65.2
Ardennes Circuit.					
1905	Hemery	90	Ardennes	372	5:58:32 61.82
1906	Duray	130	Ardennes	372	5:38:39 63.36
Vanderbilt Cup.					
1904	Heath	90	Long Island	284.4	5:26:45 52.2
1905	Hemery	90	Long Island	283	4:36:08 61.49
1906	Wagner	120	Long Island	283	4:50:10 61.43
Grand Prix.					
1906	Szlsz	100	Sarthe circuit	769	12:14:07 63
1907	Nazzaro	120	Dieppe circuit	478.4	6:46:33 70.61
1908	Lautenschlager	120	Dieppe circuit	478.4	6:55:43 69

Labor-saving Devices Used in Grand Prix.

No better proof of the keenness of the contest for the Grand Prix could be found than in the manner in which the tire and gasoline stations—the ravitaillement, as it is called here—had been fitted up. With a few exceptions by firms having little chance of winning the race, whatever help they were given from

the outside, there were more labor-saving devices and more elaborate organization here than ever before.

The old method of handing up gasoline in large tin cans, the bottoms of which were punched in to facilitate emptying was abandoned as far too slow. Panhard, Mercedes, Dietrich, Bayard-Clement, and one or two others had all their gasoline under pressure in a large tank in the ravitaillement pit. A long, flexible tube led from the tank to the cars and allowed filling in but a fraction of the time usually employed.

It was interesting to compare this up-to-date method with the slower ones. Emile Stricker, for instance, the Yankee driver of the Porthos six-cylinder, ran to his stand and yelled for gasoline. It was handed up in large, open-mouthed milk cans; when all that was available had been given the tank of the racer was only half filled, and poor Stricker stamped and bit his fingers in rage as he waited for the small cans to be handed up to him. A similar delay happened to Hénry Fournier, which so enraged him that he started up the car for its last lap before the mechanic had got into his seat. The bewildered Italian would doubtless have been left behind had not Fournier leaned out while the car was in motion, seized him by the collar and bodily jerked him into the car. Before the mechanic had recovered his equilibrium Fournier had got into his fourth speed.

There were greater facilities than ever for speed in the changing of tires, though as a matter of fact the performances were not always of the best. Ordinary jacks were not used except on a small proportion of the cars. Panhard and Fiat, among others, had large pneumatic jacks made to fit under the rear axle and raise the rear of the car with two or three turns of a handle. To raise the car was the work of a second and a half; to lower it did not occupy more than a second. Dietrich had a large jack made to fit under the rear axle and provided with two levers about seven feet long. With the driver at one lever and the mechanic at the other, the vehicle was raised from the ground with one simple downward stroke.

Water and lubricating oil were handed up to the drivers in the old-fashioned way, the former in open-mouthed cans and the latter in the metal cases usually supplied by the makers. With the exception of the British Austin cars it was remarked that the racers very rarely took on water.

Spare parts were stocked in abundance. Caskets, spark plugs, nuts, bolts, magnetos, and even radiators, cylinders, pistons and piston rings, sprockets and gears were laid out in perfect order ready to be handed up if the call came for them. But the call never did come, for, with the exception of Erle, who changed a radiator at the second station, the repairs were slight, the cars either being put out of the race in a very damaged condition or through tire and wheel accidents.

Methods of preparing the cars varied with the different drivers. The Itala cars carried a cylindrical gasoline tank behind the driver's seat, of such a size that the inflated tires formed a ring around them. The Weigel cars had a similar arrangement, with the addition of basket work at the base and around the tank in order to diminish the vibration. On the Porthos the gasoline tank was behind the seats and to the rear of this a round tank without a lid, made of the exact size to allow tires to be put around it, while the interior could be used for carrying the pack or any tools most likely to be needed on the race. Each of the cars in this team had also a spare magneto carried on suitable brackets within the frame. As an independent timer was employed a change of magneto could be made just as quickly as the changing of a plug.

The road having been considerably loosened by the speedy voitures of the preceding day, flying stones were to be feared. As a protection, the Weigel and the Itala cars carried a fine gauze screen attached to the right hand side of his dashboard in order to protect his face from stones thrown up by a car

ahead. The same driver had his little joke in the form of an enamel plate attached to the side of the car reading, "Dangerous to lean out."

The tarred surface was feared by most of the drivers, who wore not only ordinary goggles, but complete masks, making them altogether indistinguishable at a distance of a few yards. In addition a thick layer of cold cream or other ointment lay under most of the masks. Strang stuck to the ordinary type of goggle; his mechanic, Guichard, who did the same, lost his pair while jumping off the car, and no others being available for the moment, had to make a round with his eyes unprotected.

Several interesting facts appear in the table of the ten fastest laps given below. In the first place, of the nine cars which figure therein, only two finished, Hemery and Rigal. Not one of the speedy Brasiers completed the course. Salzer and Szisz retired in the third round, and Nazzaro and Wagner in the fourth. Credit should be given Rigal and Bayard for their spurt in the eighth lap, which enabled them to slip into fourth place at the finish. It may also be noted that eight of the fastest times were made on the first round; the speed with which they started off brought many of the drivers to grief.

Fin- ished.	Car.	Nation.	Driver.	Time	Av'ge	M. S. M. P. H.	Lap.
0.	Mercedes	German..	Salzer	36:31	78.5	1st	
0.	Brasier	French..	Bablot	36:40	78.2	1st	
0.	Brasier	French..	Baras	36:45	78.0	3d	
0.	Brasier	French..	Thery	37:06	77.3	1st	
0.	Renault	French..	Szisz	37:06	77.3	1st	
0.	F. I. A. T.	Italian..	Wagner	37:13	77.0	1st	
4.	Bayard-Clement	French..	Rigal	37:28	76.7	8th	
0.	Brasier	French..	Baras	37:44	76.0	1st	
0.	F. I. A. T.	Italian..	Nazzaro	37:48	75.9	1st	
2.	Benz	German..	Hemery	37:55	75.6	1st	

Length of one lap, 47.8 miles.

The world's record for prolonged speed on closed circuits still belongs to Nazzaro, with 70.61 miles an hour attained last year at Dieppe. Though this year's cars were faster than those of 1907, as shown by the breaking of the record for one round by no fewer than eleven cars, the average for the total distance fell below that of a year ago by reason of tire trouble, partly caused by the state of the road and partly by the use of a new rim. Salzer, who has the record for one round with a Mercedes car, attained a speed of 78.5 miles for a distance of 47.8 miles, standing start. Last year the best time made by Nazzaro on one round worked out at the rate of 75 miles an hour, flying start. Herewith is the race average of the finishing twenty-three cars:

Speed Records of Grand Prix.

Pos.	Car.	Nation.	Driver.	Time.	Av'ge.
1.	Mercedes	German..	Lautenschlager...	6:55:43	68.9
2.	Benz	German..	Hemery	7:04:24	67.4
3.	Benz	German..	Hanriot	7:05:13	67.4
4.	Bayard-Clement	French..	Rigal	7:30:36	63.6
5.	Mercedes	German..	Poegge	7:32:31	63.4
6.	Opel	German..	Joerns	7:39:40	62.4
7.	Benz	German..	Erle	7:43:21	61.9
8.	Renault	French..	Dimitriewitch	7:54:12	60.4
9.	Panhard	French..	Heath	7:55:36	60.3
10.	Germain	Belgian..	Perpere	7:59:07	59.8
11.	Itala	Italian..	Cagno	8:07:56	58.6
12.	Bayard-Clement	French..	Gabriel	8:11:44	58.3
13.	Motobloc	French..	Courtade	8:12:43	58.2
14.	Motobloc	French..	Garret	8:19:56	57.4
15.	Renault	French..	Callois	8:19:57	57.4
16.	Mors	French..	Janatzky	8:24:44	57.1
17.	Mors	French..	Jarrott	8:39:20	55.2
18.	Austin	English..	Moore-Brabazan	8:42:50	54.5
19.	Austin	English..	Resta	8:46:50	54.4
20.	Itala	Italian..	Fournier	8:47:20	54.4
21.	Opel	German..	Opel	9:08:11	52.2
22.	Germain	Belgian..	Degrals	9:13:34	51.8
23.	Panhard	French..	Farman	9:24:40	51.0

THOMAS STILL SURE OF WINNING ROUND THE WORLD RACE

BY arriving in St. Petersburg first, which city, according to cable advices to the *New York Times*, the Protos car reached on Monday evening, the Germans have been enabled to win the second prize of \$1,000 offered by the Imperial Russian Automobile Club. The definite position of the Thomas car was not known at the time, but according to Lieutenant Koeppen, it had reached Nijni Novgorod, about two days behind the German car. This would not appear to be correct, however, as when last reported the Americans and the Thomas were at Viatka, and Schuster was vainly endeavoring to locate a replacement part that had been lost in transportation somewhere along the line of the Siberian railway. Viatka is on the direct line to St. Petersburg, while Nijni Novgorod is 200 or 300 miles due south on the line to Moscow, which the Germans followed, so that it is unlikely that Schuster would run this distance unnecessarily, merely to look up a replacement part.

Thomas Has Thirty Days' Leeway.

Whether the Protos leads the way into Paris or not will not affect the position of the Thomas, provided the latter arrives there within thirty days of its rival, this being the allowance accorded it for its useless trip to Alaska and principally on account of the fact that the German car was shipped from Pocatello, Idaho, to Seattle, in order to reach Vladivostok in time to start with the others. Had the Protos been compelled to make the trip overland to San Francisco, then to Seattle and thence to Asia, as did the other competitors, it would have been months behind, as it had seriously broken down three times in succession just prior to being shipped to Seattle for repairs.

The arrival of the Thomas at Viatka, July 15, marked the close of the second one of those unfortunate occurrences that have served to delay the car so much during its Siberian trip. Shortly after leaving Ekaterinburg, on July 7, the boundary line between Europe and Siberia was crossed, but long before reaching that point one of the gears had succumbed to the terrific strain of the rain-soaked clay roads. It was temporarily repaired, 30 miles from Obansk, in Siberia, making further

progress possible. Perm, in European Russia, was reached July 8, in a driving rain, with the roads in a worse condition than ever. Miller advised waiting as the crudely repaired gear would not stand the ruts and holes that racked the car so fearfully. Schuster determined to go on, however, and this proved his undoing, as the gear gave way again, but even in that condition the car managed to make the 15 miles intervening between it and Viatka without further mishap.

Accidents and Delays Have Been Numerous.

Ever since the accident caused by bumping over unballasted ties on the Siberian railway in the early stages of the journey, which placed the Thomas car five days behind, the Americans have met with a series of misfortunes. All but two days of this had been made by the time the Thomas reached Chita on June 19. Upon arriving at Lake Baikal the Thomas all but caught its German rival, just missing the boat which carried the former across. As a result, there was no gasoline to be had, causing a further delay of nine hours. On June 23 the Thomas was but 100 miles behind, and four days later it caught the Protos at Tomsk, but the ferryboat sunk with the American car, again permitting the Germans to get ahead. But by strenuous effort the Americans once more pushed to the front and July 1 were leading the Protos by a day. Both competitors left the main line of the railway, striking north to Ekaterinburg to the same pass through the Ural range. The Thomas kept on its northerly course through Perm, while the Germans went south through Kasan and Moscow, thus covering a much greater distance in reaching St. Petersburg than would have been necessary by the route taken by Schuster, so that if it had not been for the unfortunate accident to the gear and the delay caused by the loss of the replacement part in transit, the Thomas would have led its rival into the Russian capital by a good margin.

After a silence of more than a fortnight the Zust has been heard of at Krasnojarsk, which is the first report received from the Italians since July 1. It has been meeting with misfortunes and still has 5,600 miles to cover to Paris.

INCREASED EFFICIENCY OF SINGLE MOTOR DRIVE*

BY A. L. DIXON, MEMBER SOCIETY OF AUTOMOBILE ENGINEERS.

SINCE the introduction, this season, of the single motor drive for heavy commercial trucks, considerable comment has arisen as to the practicability of this type compared with the double motor drive. In adopting the single motor the first advantage gained is decrease in weight, lighter battery, simpler control with a corresponding increase in number of parts thus decreasing the electrical troubles about one-third.

While the above points appeal very strongly to the owner of a power wagon, let us consider its performance from the technical point of view.

Comparing the two types separately we have:

Results of Double Motor Drive.

Weight light—11,610 pounds.

Motor—General Electric Company, 2, 30 amperes at 85 volts, 800 r.p.m.

Battery—Exide, 44 cells, 19 plates, 63 amperes for 4 hours.

Controller—General Electric Company continuous torque, 5 speeds forward, 2 reverse.

Double gear reduction, 13.33 to 1.

Tires—Firestone, front, 36x7 inches; rear, twin, 36x4 inches.

Chain—First red., Morse; second red., Diamond roller.

*Paper read before the Society of Automobile Engineers on the occasion of the third annual summer meeting at Detroit.

Bearings—Timken roller on countershaft and wheels; Hess-Bright on motors.

Performance on level asphalt:

Volts.	Amps.	Watts.	Speed	Weight Loaded	Watts. per Ton Mile	D. B. P. Per Ton
85.5	59.7	5,100	6.54	10.95	71.2	24.5

Curve No. 1 shows the performance of the two motor drives.

Showing of Single Motor Drive.

Weight light—9,505 pounds.

Motor—General Electric Company, 40 amperes at 85 volts, 1,200 r.p.m.

Battery—Exide, 44 cells 15 plates, 49 amperes for 4 hours.

Controller—General Electric Company continuous torque; 4 speeds ahead and 2 reverse.

Double gear reduction, 15.23 to 1.

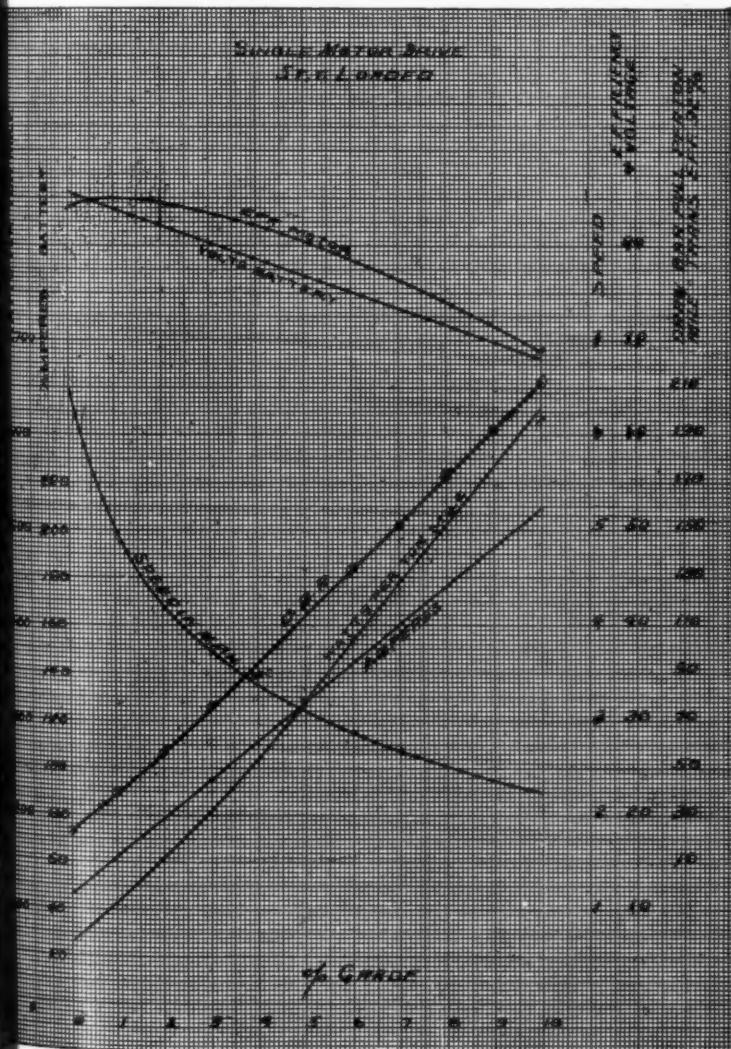
Firestone tires—Front, 36x7 inches; rear, twin, 36x2 inches.

Chain—First red., Morse; second red., Diamond roller.

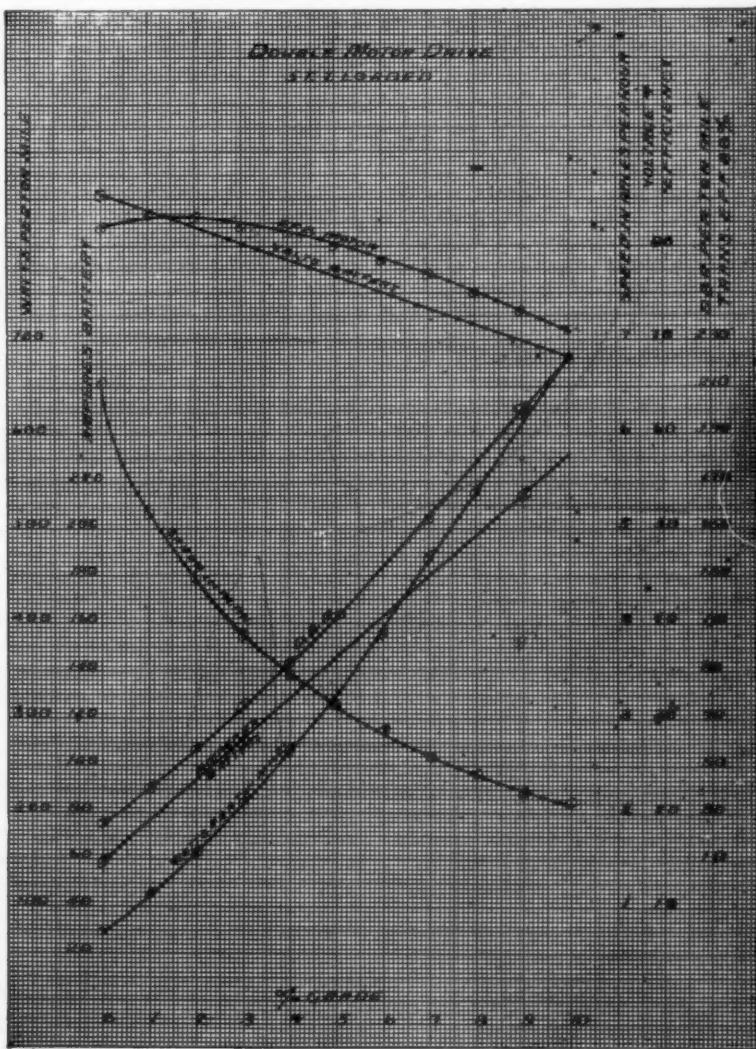
Performance on level asphalt:

Volts.	Amps.	Watts.	Speed	Weight Loaded	Watts. per Ton Mile	D. B. P. Per Ton
85.5	46.8	3,990	6.50	9.865	62.3	22.3

Curve No. 2 shows the performance of the single motor drive.



Comparative Performance of Single Electric Motor Drive.



Results Shown by Double Motor Drive.

SINGLE MOTOR DRIVE—FIVE TON TRUCK.

Per Cent. Grade	Volts. Battery	Amps. Battery	Total Watts.	Speed M.P.H.	Weight in Tons	Watts. Per Ton	Motor Efficiency	D.B.P. Per Ton at 92% Trans.
0	85.5	46.8	3,990	6.50	9.865	62.3	84	22.3
1	84	62.5	5,200	5	9.865	100.5	85	39
2	82.2	79	6,500	4.2	9.865	157	84.5	50
3	80.2	95.2	7,640	3.7	9.865	209.5	83.8	75
4	78.5	111.5	8,760	3.4	9.865	261	82.2	98.2
5	76.7	127.5	9,760	3.1	9.865	320	80.7	116.2
6	75	145	10,880	2.9	9.865	380	78	133.5
7	72.2	160	11,720	2.7	9.865	437	77.5	152.8
8	71.5	176	12,580	2.54	9.865	502	75.5	172
9	69.7	193	13,430	2.4	9.865	568	73.5	191.5
10	68	209	14,220	2.3	9.865	612	72	223

DOUBLE MOTOR DRIVE—FIVE TON TRUCK.

Per Cent. Grade	Volts. Battery	Amps. Battery	Total Watts.	Speed N.P.H.	Weight in Tons	Watts. Per Ton Miles	Motor Efficiency	D.B.P. Per Ton at 88% Trans.
0	85.5	59.7	5,100	6.54	10.95	71.2	82	24.5
1	84	76.5	6,430	5.16	10.95	113.8	83.4	40.3
2	82.2	93.8	7,700	4.48	10.95	156.8	83	57.2
3	80.7	111	8,960	3.88	10.95	211	82	75
4	78	128	10,000	3.43	10.95	266	81.5	103.7
5	77.3	145	11,200	3.11	10.95	329	80	120
6	75.6	162	12,220	2.8	10.95	390	78.5	133.8
7	73.8	178	13,230	2.58	10.95	468	77	154
8	72.3	196	14,180	2.41	10.95	538	75	177
9	70.6	213	15,020	2.22	10.95	618	73	200.3
10	68	232	15,780	2.11	10.95	686	71	223

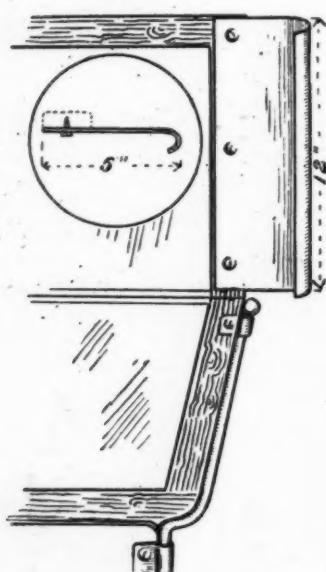
From the above data it will be seen that by using a 15-plate battery with a capacity of 196 ampere hours on the single motor drive, it is possible to get the same mileage as from the double motor using a 19-plate battery of 252 ampere hours. Or with the single motor drive with a 19-plate battery, the mileage would be increased 14 per cent. over the double motor drive. The above article is based on tests made of regular stock cars manufactured by the General Vehicle Company.

HOW AN AUTOMOBILE MAY RUN WILD.

A runaway motor car under ordinary circumstances can only take place on a steep declivity, too steep, in fact, for the brakes, when the driver is on board, but that it is possible for a car to get away "on its own" and "run amuck" amongst the traffic has been shown to be possible on several occasions, and two cases were recorded last week, writes Henry Sturmy, in *Motor* (London). In one case, which occurred in Ireland, the car was left standing, with the engine running, and by some means or other the brake lever, which also released the clutch, got out of its notch, with the result that the clutch went in and the car started, though happily no very extensive damage was done. In the other case, a motorist left his 60-horsepower car in garage and inadvertently left the clutch in. When he came to use his car again, he started his engine on the switch before getting into the car, and the vehicle promptly made a bee line for the door, which it smashed and, passing through, crossed the road and brought up against a wall on the other side, much to the detriment of radiator and lamps, as can well be imagined. These instances, although not frequent, can scarcely be said to be rarities, and it will be seen that they are due to the fact that, in the generally accepted system of car construction to-day, the normal position of the clutch is in engagement, and it is only out of engagement when the driver has taken the needful steps to remove it from that position. Were matters reversed and the normal position of the clutch arranged to be out of engagement with the engine, with which it could only be connected by a deliberate and intentional action on the part of the driver, such occurrences as those above related could not take place. There is no particular difficulty about it, because there are cars which are so constructed, but the general practice is the other way, and, as these incidents show, it contains a fair amount of potential possibility of danger, as there will always be drivers who are not as careful as they should be.

ELIMINATING BACK DRAFTS FROM A WIND SHIELD

THE appended illustration shows a device which an English autoist has adopted in connection with a wind screen, which is a great improvement, says *Motor* (London). As will be seen, it consists in the fitting of what may be termed a side wing with a returned edge, thus increasing the total width and widening the path made by the car through the air, so that the return inrush of air to fill the vacuum commences at a point a little further back and more outwards than usual, thus, to a certain extent, missing the occupants of the car with the air currents. Upon the question of wind screens generally the writer says: I was out with a friend one day in his car, and, as we were running rather fast down a hill, a small boy threw a stone at us. The boy was not very large, and his power of throwing could not have been very great, but the speed at which the car was traveling gave such an impetus to the stone that it passed completely through the hard felt hat that my friend was wearing at the time, and, luckily, did no more damage than to



Improving a Glass Wind Shield.

the hat. I remember at the time making up my mind that I would never ride behind a wind screen of glass, as, had we had one that day, it might have meant blindness for one of us. However, after motoring constantly through all weathers, I found myself face to face with the choice of having to use a wind screen or of having to give up motoring altogether, as the rush of wind affected my eyes rather badly. I tried goggles—half a dozen pairs at least—but I found them horribly uncomfortable, so gave them up, and at last went in for a screen. The screen that I am using has the lower half inclined toward the driver, the upper half vertical and adjustable. At first I experienced a good deal of discomfort from the back draft, but now I have overcome this, practically entirely, by adding a couple of side wings to the upper half of the screen. The wings are made of stout brass, of the same length as the upper half of the screen; width about 5 inches and slightly curved forward as shown in the section. I made these myself, making a template first in cardboard. I bent the plates over a broomstick with a rawhide mallet, and countersunk the holes for the screw-heads; the entire cost for the pair, including nickel-plating to match the rest of the metal work on the car, was only a few dollars. So much for this idea. Recently, coming home from Birmingham, we were passing through Merstham, when a small boy picked up a stone with the intention of throwing it at the car. I yelled at him and frightened him into dropping the stone, but, remembering my other experience, I am beginning to feel nervous about that glass screen again. I have seen screens made of glass in which is embedded some fine wire netting. This strikes me as being a good idea, as the netting would hold the fragments together. But why is the lower half of a wind screen made of glass at all?

PRACTICE OF BRAKING WITH THE MOTOR*

By F. N. EUNTL.

MUCH has been written concerning the advantages and the disadvantages of braking with the motor. Abroad, and in England particularly, the question has been the cause of raising an extended discussion. The detractors of this mode of braking or imposing the function of a retarding agent upon the motor, claim that it subjects that essential, as well as every element of the transmission, to an excessive strain. Certain it is, that those who doubt the efficacy of those parts should not place their confidence in anything but the friction brakes. Frequently, however, the *theoretical truth* of the matter is to be found among the extreme opinions of both the *pro* and *con* supporters of the argument, but in our opinion, the *practical truth* favors the upholders of the *pro* end, and here is why.

If it be true that the motor and the essentials of the transmission will succumb to the additional strain imposed upon them by utilizing the retarding action of the motor to reduce the speed of the car, instead of resorting to the use of the friction

speed. The following experiments show the extent of the retarding power that is to be expected of a motor when acting as a brake. They are the results of the investigations of W. Watson, of the *Automotor Journal*, and permit of determining this value in an exact manner.

A single-cylinder motor of 88 mm. bore by 101 mm. stroke, having a mechanically operated inlet valve, was connected to a dynamo through the medium of a belt, and the energy thus produced was recorded. The diagrams, Figs. 1 to 8, were obtained with the aid of a manograph. The first shows the pressures developed during the functioning of the motor at 1,000 r. p. m. as a producer of energy, and shows an output of 5.94 horsepower. As a preliminary to testing the power absorbed by the motor as a brake, the resistances produced by the electric motor were first calculated and set forth in such a manner as not to conflict with those proceeding from the gasoline motor alone when acting as a brake. All the trials were made at a

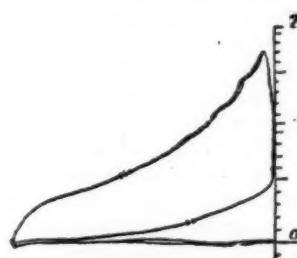


Fig. 1.

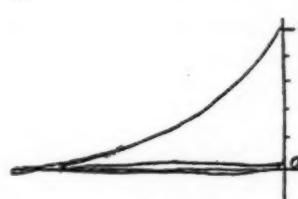


Fig. 2.



Fig. 3.

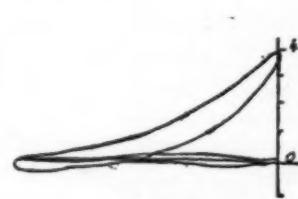


Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

brakes in every instance, they must indeed prove defective in some respect, as the foot-pounds value of that strain is a minimum compared to what the same parts are subjected to under normal conditions of traveling, when the motor is propelling and not retarding. We shall see further that the maximum braking power which can possibly be applied in this manner at the rim of the driving wheel, is only equivalent to 85 per cent. of the power ordinarily delivered by the motor and measured at the end of its crankshaft, when running at normal speed. If the braking effort were measured at the crankshaft of the motor itself, it would not amount to more than 65 per cent. of the power of the motor, the difference between the two figures in question arising from the resistance due to the various parts of the transmission system. In braking, these resistances must be added, but in traveling they must unfortunately be deducted.

But to come back to the subject of braking with the motor, the strain imposed upon the transmission is insignificant as regards the differential, its pinions, the bevels, the driving chains, where they are employed, and the pneumatics; it is insignificant beside the enormous and harmful strains to which these same organs are subjected upon the slightest extra pressure on the pedal commanding the differential brake. Motor braking is a progressive operation; elastic in a word, and that is what militates so strongly in its favor. On a long descent, the motor will prevent the car from gathering speed, if it is compelled to run very rapidly by engaging the gears of the first or second

speed of 590 r. p. m., the motor being at a temperature of 50 Centigrade. The frictional resistances alone, measured after lifting the valves out, amounted to 0.75 horsepower. The valves were then replaced and the admission valve held completely open, the total resistance then amounting to 1.03 horsepower, or .28 horsepower for the operations of aspiration, compression and exhaust, the third part of the cycle having a negative value. Upon closing the inlet valve, the total resistance increased to 1.22 horsepower, or .47 horsepower absorbed by internal work, the resistances due to friction being deducted. See Fig. 3.

On holding the exhaust valve, the diagram, Fig. 8, was obtained, the motor then functioning as a compressor and providing a resistance amounting to 1.60 horsepower. If the exhaust valve is caused to open on each third stroke as an air inlet valve, something which could be done without involving any great amount of complication, the total resistance would then be 2.40 horsepower, corresponding to 65 per cent. of the actual power of the motor when turning over at the rate of 590 turns per minute.

The following table gives a resumé of the experiments:

Working Conditions.	Total Resistance.	Net Force.	Indicated Force.
No pressure75 h.p.	0	0
Inlet open	1.03	0.28	0.27
Inlet closed	1.22	0.47	0.46
Inlet closed; half compression...	1.39	0.64	0.70
Inlet open; half compression...	1.49	0.74	0.79
Inlet and release open	1.63	0.88	0.91
Inlet closed; release open	1.69	0.94	0.94
Inlet open; exhaust closed and held 1 stroke	1.60	0.94	0.93
Inlet through exhaust each third stroke	2.40	0.94	1.05

*Translated from *La Locomotion automobile*, by Charles B. Hayward.

HANDY HINTS FOR THE MAN WHO DRIVES

ANY self-respecting shop man will clean a shaft and bearings carefully before assembling. He will also at least go through the motion of cleaning the flat contact surfaces of joints and threaded surface of bolts and ends before he puts them together. But how many men really appreciate the fact that particles of dirt, however minute, between hard contact surfaces act something like balls, and not only separate the surfaces but make it easy for them to move relatively to each other? When parts are assembled in this manner the dirt is probably crushed and imbedded in the surfaces adjacent to the bolts, but between the bolts, unless the materials concerned are quite soft, the surfaces are sprung apart more or less. This possibly does no great harm, but when parts are dismounted and are assembled frequently it is only a question of time and carelessness for every contact surface to become so roughened that a true fit is out of the question. A careful workman will save a clean piece of waste for this part of his work, even if it is the last he has and he must wipe his hands on something else.

When a Spring Leaf Breaks.

The breakage of a spring may be serious or not according to where it occurs and how many leaves are involved. If only one leaf is broken the others will probably carry the load if care is taken not to drive fast over rough spots. The broken leaf,



Fig. 1.

however, must be held in place to act as a spacer for the other leaves. To accomplish this the whole spring, if the break is in the middle, or half of the spring, if the break is near one end, must be wound tightly with clothes line or some other rope of about that size (Fig. 2). The winding is started at the small end *C* (Fig. 1), after which the rope is passed once around the spring close to the eye, tied in a single knot, and the short end is led along the top of the spring, where it will be bound tightly by the succeeding turns. The rope should be wound for some distance past the point of the break, and the free end may be



Fig. 2.



Fig. 3.

fastened either to the spring seat or to the other end of the spring. If two or more leaves are broken at the middle or elsewhere the remaining leaves must be reinforced by a stiff bar of hard wood *A* (Fig. 2), laid along the top of the spring and bound in place by clothes line in the manner described in the above paragraph. The center of the bar should be over the break, and should be blocked up by suitable pieces of wood *B*, 3 or 4 inches long, so the ends of the bar will have to be sprung downward to bring them in contact with the top leaf of the spring. This puts the bar under some initial tension and increases its efficiency. In case it is the top leaf of the spring that is broken, the bar, such as just described, is necessary even if no other leaf is broken. In this case, however, it will be well for the bar to make contact with the spring leaf all along its length, and for this purpose its under surface *D* (Fig. 3) may be whittled to a curvature slightly greater than the curvature of the spring. This will produce the initial tension required, by the bar straightening itself to make complete contact with the spring when the clothes line is wound on. As a matter of safety it will be well to improvise a bumper between the spring and frame to prevent the damaged

spring from being flexed beyond its safe limit. If a rubber bumper is not available one may be improvised by laying a stick of wood on top of the center of the spring and binding it on with rope wound in as many parallel turns as possible (Fig. 4). The rope will act as a cushion, and by using a considerable number of turns the shock will not be localized at one point of the frame.

The Oily Canvas Apron.

The canvas apron used as a dust screen underneath many cars is a serious menace, and should not be tolerated without extreme precaution against the possibility of its catching fire. A long hill, an imperfectly working carburetor which forces the car to first speed instead of second, and a radiator something less than full, make a combination which can happen any day; and if under such circumstances the oil-soaked apron comes in contact with the exhaust pipe it takes but a few seconds to start a blaze. Then the only salvation is in quick action with a jackknife, by which the apron may be cut loose before the fire communicates to the woodwork or sets the gasoline tank boiling. Since the flames are fed by the oil drippings, and not to any important extent by the canvas itself, it follows that the insertion of an asbestos section around the exhaust pipe would not help matters. A tin section, if it had sufficient slope to insure the oil on it draining away instead of accumulating it, undoubtedly would be much safer, and for an extra precaution the upper half of this slope could have a raised flange around the hole through which the exhaust pipe passed, thereby preventing the oil from dripping on the pipe. Of course, the hole should be large enough so that the pipe would not ordinarily touch the tin.

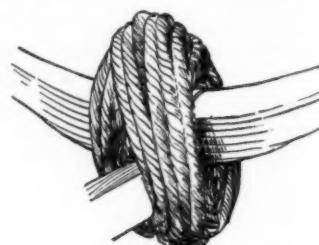


Fig. 4.

Annoyance of Clogging Gas Tubes.

The small copper tubes commonly used for connecting the generator and the lamps rapidly clog, and in the course of a season or two they require attention. Most of this clogging will be found to take place at the ends and wherever moisture can accumulate. Water in any part of the pipes is a great annoyance, as it causes flickering of the lights, and the piping should throughout be arranged to drain the pipes toward one or both ends. It is better and generally easier to drain back to the generator, but in case this cannot be arranged the forward ends of the pipes may be cleared of water by disconnecting the rubber tubes and blowing through with a tire pump. Pipes found to be clogged may frequently be saved by cutting off an inch or two from their ends. Occasionally this results in small explosions, due to detonation of the acetylide of copper which generally forms in the pipes, and it is well to keep one's eyes and fingers out of range of the ends of the pipes while the sawing or cutting is going on. A few car makers use a larger than standard size of tubing for this work, the aim being to avoid clogging by small particles. This aids matters wonderfully. A few repairmen clean these pipes by forcing water back and forth through them, which is correct, provided proper means are followed to get the water well removed from the pipes after the cleansing operation is completed. Keeping these tubes clean is a very small matter in itself, but it is one of the innumerable little odds and ends about a car, the proper maintenance of which makes for comfort in its running, or the reverse. The careful man's car is always ready to take the road in good shape, whereas the shiftless driver's car is always minus something or other and is always causing trouble in an endless number of ways.

LETTERS INTERESTING AND INSTRUCTIVE

COMPOUND ENGINES ON THE AUTOMOBILE.

Editor THE AUTOMOBILE:

[1,474.]—Can you tell me if compound gasoline or gas engines have ever been built? Why should not compounding be an advantage in the internal combustion motor the same as it is with steam? There seem to be great possibilities in the subject and it appears strange to me that no one has taken it up thus far or if this has been done, that so little has been heard of the results. Some light on the subject would doubtless be of interest to the majority of your readers.

COMPOUND.

Norristown, Pa.

Compound gas engines have been built for some years past, and in certain cases have been found advantageous for stationary power service, but the gain is not sufficient to act as an inducement to their further development at the present moment, apparently, as there are comparatively few firms building such engines. A compound gasoline motor has been built in this country for several years past at Middletown, Conn., the car itself being known as the Compound. There are now several taxicabs running around New York City that are fitted with this type of motor, built by the concern in question. The fact that the car has not met with any great success in the three or four years it has been on the market seems to be due more to the fact that its builders have constantly been in financial trouble, rather than to any inherent defect, either in the principle or the construction of the motor. The latter has two high-pressure cylinders, placed on either side of the low-pressure cylinder, into which they exhaust alternately. We have never seen the result of any brake or efficiency tests as compared with a single-acting, two-cylinder four-cycle motor, and hence cannot say how the compound compares in this respect with the simple engine. It is not possible to compare the internal combustion motor with the steam engine where compounding is concerned, as the active fluids are of a totally different nature. Steam will retain its heat, and, in consequence, its pressure for a much longer period, than will the mixture of gases resulting from the explosion in the cylinder of gasoline engine. On this account it has been found advantageous to expand steam three, or even four, times in an engine before exhausting to the condenser. Steam is utilized at a comparatively low pressure, say 160 to 200 pounds to the square inch at the boilers, insuring a mean pressure of considerably better than 100 pounds to the square inch on the piston of the first, or high-pressure, cylinder, assuming 160 as the boiler pressure. The piston of the intermediate cylinder will receive about half or less than half the mean pressure of the first cylinder, and third expansion will result in exhausting the gases at about atmospheric pressure or slightly below.

On the other hand, the pressure in the internal combustion motor will rise as high as from 300 to 400 pounds to the square inch at the point of ignition, but will drop to 40 pounds or less at exhaust, even in the short-stroke automobile motors, so that the mean pressure will scarcely exceed 60 to 70 pounds per square inch on the piston throughout the stroke. It is this extremely rapid drop in temperature and pressure that prevents the efficient use of the products of explosion in a further expansion taking place in another cylinder. The loss caused by the transfer from the high to the low-pressure and the condensation caused by coming in contact with the comparatively cold walls of the latter, is so great that compounding seems a doubtful advantage, particularly on the automobile motor. The parent Daimler works in Germany experimented with the compound motor two or three years ago and it was claimed that the result of their investigations was a motor much superior than those previously brought out, an improved method of transfer of the charge having been adopted.

WHAT CONSTITUTES "RUNNING" A CAR?

Editor THE AUTOMOBILE:

[1,475.]—Last week's "Automobile" contained an inquiry concerning the smallest essential individual piece of a gasoline automobile. The inquiry was prompted by a wager that the writer could not take from a large touring car that had just arrived at the curb, an individual part, so essential that without its replacement the car could not continue its journey, said part to be so small that it could be concealed between the thumb and forefinger with ease. The wager was accepted, and the writer removed the small rubber washer from the valve in the air stem of one tire. The tire went flat, and the bet was won. The little rubber washer weighed exactly two grains on a jeweler's scales.

Since the question appeared in "The Automobile" numerous letters have been received suggesting parts as called for in the query, but no one has so far suggested the right answer. The query called for the smallest essential individual part, and a combination of two or more pieces does not properly come under that description.

Marshall, Minn.

A. D. HARD, M.D.

If you will refer to your original letter on this subject, you will find that no mention was made of the condition of being able to conceal the smallest essential part between the thumb and forefinger. Furthermore, we do not consider that the washer in question meets the requirements of a part so essential that without its replacement the car could not continue its journey. Have you never heard of a car running on a flat tire or on the bare rim? We have known of instances where not merely a few miles, but several hours' run have been accomplished on the rim. In your previous letter you stated that the part was to be such that without it the car could not be run. It may not be economical or good policy to run a car on a flat tire or without any tire, but it must be admitted that there is nothing to prevent its running, if the owner wishes to do so. If, as expressed in your former letter, the condition of the bet was based upon the ability of the car to run after you had removed the smallest essential part, your friend of the flat tire gave up entirely too easily when you took away the washer.

ADVICE FOR A PROSPECTIVE BUYER.

Editor THE AUTOMOBILE:

[1,476.]—How can I find out the good or bad qualities of the Aerocar, made by the Aerocar Motor Company of Detroit? Can you tell me anything about it?

N. A. BIORN, M.D.

Ada, Minn.

"Ask the man who owns one," would appear to be pretty good advice on a subject of this kind, but where you are not in a position to get a frank opinion from an unbiased personal acquaintance, about the only thing to do is to note what the car can do on as strenuous a demonstration as the agent will grant, and dealers are very liberal in this respect where a buyer means business. It is sometimes possible to find an agent who will frankly tell you the weak points of a car, as well as its good ones, though the genus is rare, and it doubtless would be well for all concerned if there were more of them.

EFFICIENCY OF METHODS OF TRANSMISSION.

Editor THE AUTOMOBILE:

[1,477.]—I presume the question has been threshed out at great length in the past, when interest in the subject was keener, but I would like to revive it temporarily for my own information and doubtless that of others. Of course I realize that the chain-driven type of automobile has almost disappeared and that, sooner or later it will give way altogether to the shaft-driven type. What I wish to learn, whether this has been done as the result of the technical disadvantages of the chain; that is, its lesser efficiency, or merely for looks and silence.

H. L. ABERCROMBIE.

Washington, D. C.

Drive by double side-chains is slightly more efficient when the chains are new and well-lubricated than is the case with the shaft and bevel gear drive, although in the case of an

automobile the shaft and bevel gears are present in either type, the chief difference lying in their location and the necessary angularity of the propeller shaft. However, the fact that in the chain-driven car, the clutch, gear-set and countershaft are all in the same plane, is an advantage, which is further added to by clean driving chains. But as the latter become dirty, and as the sprockets and chain links wear, this advantage is more than offset, so that under ordinary service conditions of running the shaft drive is really the more efficient. The question was really not one of efficiency, however, but rather one of silence and greater ease of protecting the driving mechanism. The propeller shaft and bevel gear readily admit of this, and while the chain also does so, in that a boot or case may be put over each chain, the latter method of protection never appears to have attained any popularity. Even with clean chains the chain-driven type of car is necessarily more noisy and there seems to be little doubt that the attainment of silent-running has really been the chief moving factor in the adoption of the shaft drive.

WHAT CAR FILLS THESE REQUIREMENTS?

Editor, THE AUTOMOBILE:

[1,478.]—Will you kindly inform me what car (automobile) will meet these desired requirements of a physician, to wit: Weight of runabout not over 1,500 pounds, track 60 inches, wheelbase 90, horsepower 20-24, radiator and pump, engine four-cylinder, upright, roller bearings throughout, full elliptic springs, front and rear, tire size 30 by 3 1-2, shaft drive. All other parts up-to-date and durable; suitable for sand and mud. Hard work all the time.

Mobile, Ala.

W. R. JACKSON, M.D.

Judging from the immediate response to a recent letter from a would-be purchaser of a car who did not expect to have his ideal realized for some time to come, there must be not a few makes on the market at present that will fulfill your requirements regardless of how exacting they happen to be. Barring a few exceptions to your specifications, it is not difficult to call to mind several cars of the kind. There is one bad feature about your proposed car, and that is the use of 30-inch wheels. Such small wheels not only make uncomfortable riding, but are a very poor investment from the point of view of tire expense. A 34 by 3 1/2-inch tire will give very much better service, difference in first cost considered, than will the 30-inch size, and if you are willing to specify 36-inch wheels your car will be that much better for them. As a matter of fact, we doubt very much if you will find any 24 to 30-horsepower four-cylinder cars on the market to-day with smaller than 32-inch wheels, while the majority are equipped with either 34 or 36-inch sizes. Any of our readers who think they can supply a physician's car for the strenuous service outlined may compare their specifications with his in these columns.

REGARDING THE USE OF A DECARBONIZER.

Editor, THE AUTOMOBILE:

[1,479.]—There is a certain mixture advertised under the name of Radium Decarbonizer. The makers claim that by injecting a few ounces into cylinders or splash tank of an auto engine, all carbon deposits will be dissolved, and pass out of muffler in black smoke. They claim also that Decarbonizer will not injure in any way any part of the engine. In fact, Decarbonizer works on carbon and nothing else. I have been trying to find some one in this section who had tried Decarbonizer. Garage keepers and expert chauffeurs, whom I have asked, advise me to let some other fellow try it first, and until then to stick to kerosene and a scraper to remove carbon. Possibly some of your New England subscribers have tried Radium Decarbonizer, and if so, they could give some advice through "Letters Interesting and Instructive."

Concord, N. H.

C. F. M. STARK.

In the past half year we have received quite a number of inquiries on this subject and if any of our readers who have had personal experience with Radium Decarbonizer in their motors will contribute the resulting knowledge for publication in these columns, we have no doubt it will prove beneficial to a great many other subscribers besides those who have taken the trouble to inquire in the past.

CORK INSERTS WOULD REMEDY DIFFICULTY.

Editor, THE AUTOMOBILE:

[1,480.]—In your issue of a recent date there appears a letter from R. S. Trulock in which he states that he has tried various remedies to prevent the leather cone clutch in the planetary gear of a 16-horsepower touring car from slipping. We should have written to Mr. Trulock personally in relation to his difficulties were it not for your comments following his letter in which you say "no friction clutch can be made to hold where it is exposed to lubricating oil in any quantity, and that nothing can be put on the facing which will prevent the lubricating oil from causing it to slip," also suggesting a rather expensive system of guards to prevent the oil from reaching the clutch.

We have during the past three years used the columns of "The Automobile" and other publications in describing the results obtained by cork inserts, and technical writers for the automobile publications have said that cork inserts in leather-faced cones practically entirely prevent the trouble referred to, as the coefficient of friction of a cork insert clutch is not materially affected by oil.

Leather-faced cone clutches fitted with cork inserts have been used in some eight thousand automobiles, being the standard equipment of the Pierce, Pope-Hartford, York, Chadwick, De Luxe, and nearly fifty other makers of cars. As evidence of what cork inserts do, we desire to call your attention to the fact that 50 per cent. of the cars now contesting for the Glidden prize are fitted with cork insert clutches or brakes.

Under the circumstances we think that those in trouble should be advised of this fact rather than to have suggested to them a more expensive, and perhaps less satisfactory, method of eliminating the difficulty. NATIONAL BRAKE & CLUTCH CO.,

W. W. WHITCOMB,
President.

Boston, Mass.

WANTED: A REAL HILL CLIMB FOR STOCK CARS.

Editor, THE AUTOMOBILE:

[1,481.]—Can you tell us whether or not there is to be a hill-climbing contest on Mt. Washington this summer? We are looking for contests of greater length than the average climb, which at present seems to be in vogue. If you can consistently make any mention of the points which we refer to in this letter, would be glad to have you do so, as we believe that among the clubs which watch the column of "The Automobile" some would take the hint and arrange a contest where cars will undergo a hard, 3, 4 or 5-mile grind.

We believe that the automobile industry owes to itself and the public a contest of this sort, which will demonstrate actual climbing ability under the most adverse road and grade conditions. In such a contest, the special featherweight "sky-rockets" which are entered as stock cars, would be eliminated. In the hill climbs such as we have been having, the manufacturer who enters a genuine stock car (in all that the term applies), has very little chance against cars equipped with a paper body, postage stamp mud guards, and ratio of gearing adjusted to suit conditions exactly.

If we cannot pit our cars against anything but these freaks, will someone give us a climb so severe that they will go to pieces. A car loaded with dynamite and stripped of every ounce of weight possible, will stand together long enough to fly up a smooth half, or three-quarter mile grade; but give us a climb which will demand strength and real endurance in every entry, and the manufacturers who are really racing stock cars will rise up and thank you for any effort you put forth to secure such contests.

CAMERON CAR CO.,
H. M. DOHERTY,
Sales Mgr.

Beverly, Mass.

TO PREVENT RUST ON WHEEL RIMS.

Editor, THE AUTOMOBILE:

[1,482.]—Referring to Robert Jewett's inquiry, No. 1460, in the July 9 issue of the "The Automobile," if the wheel rim is painted with a mixture of shellac and finely pulverized flake graphite (mixed to a stiff paste), rust on wheel rims with its attended bad effect upon tires may be largely eliminated or entirely eradicated. After treating the rims as indicated above, it will be found that they are very even and a waterproof film of great smoothness is formed. The graphite is absolutely inert and there need be no apprehension regarding a detrimental effect upon the rubber.

If the whole inner shoe is painted with a mixture of graphite and shellac, there will be little tendency for the tube to stick. We have been advised by some tire manufacturers that they use Dixon's Flake Graphite as indicated above. In this connection, would call attention to the advisability of treating all threaded connections with a mixture of flake graphite and oil. It will be found that the connection can be easily taken apart and there will be no tendency for the joint to be tightly rusted.

Jersey City, N. J. JOSEPH DIXON CRUCIBLE CO.

THE AUTOMOBILE CALENDAR.

AMERICAN.

Shows and Meetings.

Dec. 31-Jan. 7.—New York City, Grand Central Palace, Ninth Annual Automobile Show, conducted by the American Motor Car Manufacturers' Association, with Exhibits by the Importers' Automobile Salon, Inc., Alfred Reeves, general manager, 29 West 42d St.

Jan. 16-23.....—New York City, Madison Square Garden, Ninth Annual National Show of the Association of Licensed Automobile Manufacturers. Office of Secretary, 7 West 42d St., New York City.

February, 1909.—Chicago Coliseum and First Regiment Armory, Eighth Annual National Exhibition, National Association of Automobile Manufacturers. (Exact date to be announced.)

Races, Hill-climbs, etc.

Aug. 14.....—Chicago, Third Annual Algonquin Hill Climb, Chicago Motor Club.

Sept. 5-9.....—San Francisco-Los Angeles Reliability Run, Automobile Dealers' Association of San Francisco.

Sept. 14.....—Chicago, Annual Economy Run, Chicago Motor Club.

Oct. 24.....—Vanderbilt Cup Race, Long Island Course, auspices of Vanderbilt Cup Commission.

Nov. 26.....—Savannah, Ga., Grand Prize Race, Savannah Automobile Club.

FOREIGN.

Shows.

Oct. 11-18.....—Paris, International Congress and Public Exhibition on Roads and Road Making for Modern Locomotion, French Ministry of Public Works.

Nov. 28-Dec. 13—Paris, Eleventh Annual Salon de l'Automobile, Grand Palais, Automobile Club of France (Pleasure Vehicles, etc.)

Dec. 22-29.....—Paris, Eleventh Annual Salon de l'Automobile. (Commercial Vehicles, etc.)

Races, Hill-climbs, etc.

Aug. 12.....—Ardennes Circuit Races and Coupe de Liederkerke, Automobile Club of Belgium.

Aug. 29-30.....—France, Mont Ventoux Hill Climb, Vauclusien Automobile Club.

Sept. 1-8.....—French Volturette Contest, Auspices "L'Auto."

Sept. 6.....—Bologne, Italy, Florio Cup Race, Automobile Club of Bologne.

September.....—Paris, Vichy Aeroplane Competition, \$4,000 Prizes, Aero Club of France.

Oct. 11.....—Berlin, Germany, Gordon Bennett Balloon Race, Aeronautical Club of Berlin.

AMERICAN AUTOS IN PALESTINE.

A report from the consul at Jerusalem, Thomas R. Wallace, says that a party of American tourists made a trip through Palestine this spring in an automobile without encountering any great difficulty. Great interest has been aroused throughout the district, and a number of people are talking of investing in cars. The consul recommends a light, strong car with high clearance, a good hill-climber, and selling at a medium price, and suggests that a repair and supply shop would increase the chance of sales. Under the present law permission must be obtained from the Turkish Imperial Government to use a car in the country, and as this may be granted or withheld at the whim of some official, the automobile's status is not exactly settled yet.

AUTOS HAD BECOME EDUCATED.

Some of the villagers were overheard discussing the Amir's motor car, says the *London Spectator*. "It is not a carriage, for it has no horses," said one. "It is not a train, for it has no rails," said another. "My brothers," said the oldest of the gray-beards, "ye are as fools having no understanding. For fifty years the sahibs have been training their devil carriages to run on rails. Now at last they have learned to run by themselves."

A GREAT MOTOR BUGGY STATE.

INDIANAPOLIS, IND., July 20.—In no other State in the Union are the carriage and automobile industries so closely allied as in Indiana. The carriage factory of any importance at all, or the carriage repository, without one or more automobile agencies is very largely in the minority according to some of the recognized authorities of both trades.

With one notable exception, that of the Studebaker Bros. Manufacturing Company, of South Bend, carriage factories so far are confining their efforts largely to the high-wheeled motor buggy, so far rather an untried quantity among Indiana dealers.

Of the 40 concerns manufacturing motor buggies, eleven are located in Indiana and a twelfth company will bring out a vehicle of that type within the next few weeks. Within the next six months half a dozen other Hoosier carriage concerns will have motor buggy models out, so that the situation next season will be watched with no little interest.

Indiana companies now manufacturing motor buggies are: Albany Automobile Company, Albany; Butler Company, Butler; Economy Motor Buggy Company, Fort Wayne; W. H. Kiblinger Company, Auburn; T. J. Lindsay Company, Indianapolis; Mier Carriage & Buggy Company, Ligonier; Postal Auto & Engine Company, Bedford; Reeves Pulley Company, Columbus; Single Center Buggy Company, Evansville, and Zimmerman Manufacturing Company, Auburn.

HAND BOOKS FOR AUTOMOBILISTS.

Italian Club's Annual Touring Handbook Ready.—There has just appeared for the year 1908 *l'Annuario dell'Automobilismo del Touring Club Italiano*, this being the official title of the year-book of the Italian automobile club, which has its headquarters at Milan. It is a conveniently arranged volume of several hundred pages, printed on thin paper to keep its size within the limits of a pocket, and contains every item of information that the tourist can possibly need, not alone when traveling through Italy, or about to enter that kingdom, but also concerning the remainder of the Continent. Some idea of the thoroughness with which it has been prepared may be gained from the fact that no less than 1,000 places at which gasoline and lubricants may be obtained are listed, in addition to some 1,500 garages, 2,000 hotels and 1,200 repairmen, all of which have the official sanction of the Touring Club, and whose capacities and qualifications are set forth in the lists. Americans contemplating a tour through the delightful scenery afforded by Italy should not fail to avail themselves of this great fund of information, which, together with the other advantages afforded by the Italian Touring Club, may be obtained through membership in the American Automobile Association.

Route Book, Automobile Club of France.—The ninth annual edition of the *Annuaire de Route de l'A.C.F.* is now off the press. It has been enlarged by 70 pages since the edition of 1907 and contains a great deal of additional information, now giving the addresses of all supply depots, repair shops, builders, garages, hotels and the like both in France and the remainder of the Continent, besides 3,000 names of automobile dealers. It also contains the address of every club affiliated with the A.C.F., local touring committees and the like, in addition to which there is a special chapter devoted to customs, tryptiques, methods of shipment, tariffs, telegraph and postal rates, average price of gasoline, oil and similar supplies in practically every country of the Continent, as well as Great Britain and the United States. A great many itineraries for both France and other parts of Europe are given, as well as something like 150 new maps of cities, showing where to find the best hotel, garage, railway station, telegraph office and the like.

The French Society of Engineers has awarded its annual prize to M. Robert Esnault-Pelterie for his article upon light-weight motors.



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CONCERNING AUTOMOBILE COMPETITION.

In the progress of the automobile, competitive events of various kinds have been of unquestioned benefit, resulting in better vehicles and calling widespread attention to the industry itself. In parts of the country where the automobile is of recent introduction, there is still need and advisability for diversified contests under the auspices of the local club or local trade body, or, better yet, under some sort of joint arrangement, for it is a natural sequence that the man who pays the bills should have something to say in the premises—and this holds good to an even greater degree when it comes to national events with their increased expenses. Wherefore the existence of the now perfected General Conference Committee involving the American Automobile Association and the N. A. A. M. and the A. M. C. M. A.

That it should come within the province of this committee to decide what events are to be classed as national or international, is logical and expected, and while there will always be those who, for the sake of personal and temporary gain, will find ways of evading that which is for the common good, it is a certainty that the American makers are determined to countenance and support only those contests in the instituting of which they have a voice, for, let it again be remembered, they pay the bills. The decision of the N. A. A. M. to notify the foreign clubs that the A. A. A. is the seat of sport and other automobile government in this country, and that only through this channel will international conditions find acceptance, is action that is a part of the program outlined for the future. The particular thing aimed at at this time is the ridiculous attitude of the foreign clubs in threatening to bar from competition abroad the American concerns which participate in the Vanderbilt Cup race. We must run our race according to the foreign rules, though we had naught to say in their framing!

Most extraordinary is the manner in which the A. C. A. has convinced itself that it is in honor bound to hold a race in the South for those manufacturers of foreign automobiles who have been inspired to find grievous fault with the American rules for the Vanderbilt Cup race in America. True it is that they have greater speed than ever, these 1908 Grand Prix cars, and also possess horsepower in excess of what can be utilized over any road constructed, yet it seems that—according to the much-referred-to rules—they do not have quite as much piston area as some of the American cars which were ready for a 1907 race that was not held, and which the American makers would like to use this year before sending them to the scrap heap. It was not possible to race these cars in the 1908 Grand Prix of France, and so one American maker went to the heavy expense of fitting up another car of less piston area and also less horsepower than any other car in the race and went abroad, handicapped and ill-prepared, to meet the best lot of racing craft that has ever engaged in international automobile sport.

Between now and October 24 the foreign maker could spend a few hundred dollars in giving his cars more piston area—though it appears to have been demonstrated that the longer stroke answers adequately—but this would inconvenience him quite a bit, and, then, there is the expense to consider. Consequently, it is up to the American makers to get busy at once and build new cars, for they are well able to bear the expense, and, of course, they want to be as courteous as possible to the foreigners who race in America for the sole purpose of assisting them in the sale of their product. If the foreign makers are asked to repeat the Grand Prix in sideshow style, the race will not be intensely interesting. There should be some hastily built American cars of the proper piston area to supply the "also ran" contingent.

But it is apparent that the great bulk of American makers are quite firm in their adherence to the classic Vanderbilt, to be run within flashlight of New York City, over the best course in its history, and before a million and more spectators. And the foreigners are welcome—ten from any country, not five as in previous years—but if they technically fear a little more piston area and will not allay their apprehension by spending a few dollars, then their places will be filled by more Americans, who otherwise would be limited to ten in number. In the Grand Prix every maker had the right to enter three cars, and so France supplied nearly half the entries and thus had the best chance of all to win. But here in America the American maker asks no advantage in numbers. He does ask, however—and intends to have—his rights respected when it comes to the acceptance or the rejection of so-called international rules.

Coercive efforts will result fruitlessly, as is made very clear by the decision of the Central Conference Committee, and, since the game is to be played along the line of disqualifying, those who participate in unsanctioned contests will find the Long Island Motor Parkway a closed thoroughfare as far as they are concerned, to say nothing of all other regular events. If for the moment the American maker finds that he cannot compete in the Grand Prix of France, he is not likely to lose much sleep, for he will pursue the even tenor of his way and continue to produce and sell more automobiles than several European countries combined. And that idea of having the A. A. A. tour for 1910 in the British Isles may become more than a suggestion.

AMERICAN MAKERS WILL SEND WORD TO FOREIGN CLUBS

NOW it is the National Association of Automobile Manufacturers which will notify the recognized automobile clubs of Europe that in this country it will participate only in events conducted under the rules of the American Automobile Association, which it recognizes solely as the governing body in this country and which it will assist in maintaining its supremacy. This action was taken at a meeting of the executive committee, held in New York City, July 15, those present being the following:

Thos. Henderson, representing the Winton Motor Carriage Co.
 S. T. Davis, Jr. " Locomobile Co. of America.
 G. W. Bennett, " White Company.
 Charles Clifton, " George N. Pierce Co.
 W. E. Metzger, " Northern Motor Car Co.
 S. D. Waldron, " Packard Motor Car Co.
 W. R. Innis, " Studebaker Bros. Mfg. Co.
 C. W. Hildebrand, " Stevens-Duryea Co.
 L. H. Kittridge, " Peerless Motor Car Co.
 W. M. Lewis, " Mitchell Motor Car Co.
 R. D. Chapin, " E. R. Thomas-Detroit Co.
 S. A. Miles, General Manager.

The subject came before the meeting as the result of action taken at Buffalo, July 14, at a session of the General Conference Committee of the American Automobile Association, the National Association of Automobile Manufacturers, and the American Motor Car Manufacturers' Association, when it was decided that it would not be advisable or just at this late day to change

the rules for the Vanderbilt Cup race for this year. The manufacturers not only adopted a resolution indorsing this action, but decided to advise the recognized clubs of Europe that the manufacturers regard and will recognize only the American Automobile Association as the governing body of the United States, and that they will support only such events as are organized or sanctioned by the A. A. A. The attention of clubs of Europe, and of manufacturers, owners, and drivers of cars will be called to the fact that participation in any other event will lead to disqualification, which means that offenders will be debarred, not only from the minor events, but from the Vanderbilt Cup race, and from all events to be conducted on the Long Island Motor Parkway, which is, of course, the greatest speedway in the world.

The committee considered a proposition to conduct a trans-continental contest between New York and San Francisco; learned that the proposed event had not been sanctioned and would not be sanctioned without the consent of the manufacturers, and decided that such a contest is at present unnecessary. The same action was taken in the matter of certain proposed race meets in the neighborhood of New York, which, according to report, certain promoters have decided to hold with or without sanction.

The method of space allotment at the Chicago show was discussed at length, but will form the subject for August 5.

ANNUAL GOOD ROADS AND LEGISLATIVE CONVENTION ASSURED

THE success of the Good Roads and Legislative Convention held at Buffalo, July 7 and 8, by the American Automobile Association, the National Grange, and the American Roadmakers' Association, will probably lead to the calling of a similar convention each year. Resolutions passed follow:

Resolved, That in view of the signal success attending the convention held this year, a national convention of similar character be held annually, and that the national committee having in charge such convention for the year 1909 be as follows:

Robert P. Hooper, Philadelphia, chairman A. A. A. Good Roads Board, Chairman.

Ex-Governor Nahum J. Bachelder, Concord, N. H., master of the National Grange.

James H. MacDonald, Hartford, Conn., president American Roadmakers' Association.

Charles Thaddeus Terry, New York, chairman A. A. A. Legislative Board.

S. D. Waldron, Detroit, Mich., representing the National Association of Automobile Manufacturers.

Frank B. Hower, Buffalo, N. Y., chairman A. A. A. Touring Board.

Alfred Reeves, New York, representing American Motor Car Manufacturers Association.

William H. Hotchkiss, Buffalo, N. Y., president American Automobile Association, ex-officio.

Resolved, That the president of the American Automobile Association be and hereby is authorized to appoint an executive committee of twenty-one members, including the nine members composing the committee upon the national convention of 1909; the duty of which executive committee shall be to see to it that the

plans and purposes determined by the national convention of 1908 shall be carried out to their consummation, and that the measures approved by the convention be pressed to passage and enacted into law in the various States of the Union and by Congress.

Resolved, That such executive committee shall have and is hereby given power to add to its membership, by a two-thirds vote of its members, the representatives of such other body or bodies as may add strength to the movement for good roads and fair legislation, such additional members not to exceed five in number.

The national convention committee named above will shortly hold a meeting, at which the additional members of the committee for 1909 will be appointed. Other organizations having the same objects in view are expected to name representatives, who will then be added to the executive committee. Some idea of the national character of the convention may be gained from the fact that there were present 229 accredited delegates, including representatives nominated by the governors of 20 States, and others from about 60 clubs of the A. A. A. Eleven States and the province of Ontario were represented by their chief highway officials. Also in attendance were former Governor Bachelder, the Master of the National Grange; State Masters Derthick, of Ohio, and Godfrey, of New York, and J. E. MacDonald, J. W. Hunter and E. L. Powers, respectively president, vice-president, and secretary of the American Roadmakers' association.

The proceedings of the convention are now being compiled and printed, and will shortly be distributed throughout the country.

WHY THE RECOGNIZED CLUBS CANNOT RECOGNIZE THE A. A. A.

PARIS, July 15.—Apparently there is one insurmountable present reason why the International Association of Recognized Automobile Clubs could not, even if it so desired and found advisable, place on its membership list the American Automobile Association as the successor of the Automobile Club of America. The present constitution of the international body of clubs provides that only one club can have membership from a country, and no provision whatever is made for an association of clubs from a country, and 'tis a hard task to amend constitutions.

This situation was made very clear to the foreign relations committee of the A. A. A. at Dieppe, though it should be repeated again that this committee made no effort whatever to obtain at this time any membership in the international association, contenting themselves with making known the fact that it was the A. A. A. which had and did control racing.

Though the delegates of the recognized clubs now have a fairly comprehensive and correct idea of the situation in America, not a few of them are embarrassed with the probability

that the American situation may duplicate itself in their own countries; in fact, such actually is the case in Great Britain, where the Royal Automobile Club is finding itself most stubbornly opposed by the Motor Union of Great Britain and Ireland, which body seems to be getting much the better of the waging controversy. In Germany, the Imperial Automobile Club is having some difficulty in retaining its club aristocracy, and while temporarily the Automobile Club of Italy seems to be in the ascendency, there is likely to be a renewal of a troubled situation in that country.

Therefore, it is plainly apparent that in insisting upon recognizing the Automobile Club of America as the seat of government in America, though it has as yet no racing to govern, the recognized clubs come pretty close to "saving their own faces" by preventing the spreading of the idea that all of the clubs of a country, through national officers of their own selection, should figure in the international congress.

While the recognized automobile clubs profess to concern themselves with other affairs than racing, it is an established fact that its other activities are minor in character and frequently—especially in the matter of touring—is excelled by similar work of other organizations. For instance, in France one finds the Touring Club of France the best source for information of this sort, and in England both the Motor Union and the

Automobile Association meet the necessities more satisfactorily than the Royal Automobile Club. Also in Italy, the touring club of that country duplicates the work of the French organization.

There being only one speed contest of real international importance—that of the Grand Prix of France—the Automobile Club of France practically dominates the racing situation, and such domination finally reduces itself to the Sporting Commission of the Automobile Club of France, and its most forcible and sometimes stubborn chairman is Rene de Kynff, managing director of an automobile company. The majority of the Sporting Commission being composed of French manufacturers, it is a natural and expected sequence that the racing interests of France are first considered in the international rules.

The impression that exists on this side is that the American manufacturers will never succeed in winning the Grand Prix and that they are wasting their money in the attempt. Furthermore, the French makers intend to discontinue racing in America as soon as they do not sell enough cars in that country to commensurate them for the heavy expenses. Just at the present time it is not so much a question of New York or Savannah, but a question as to whether they will participate at all. If they do participate, it is the privately expressed belief that they will not permit the Vanderbilt Cup race to be neglected, even though their entries will be made in a roundabout way.

NEW JERSEY'S BIG CLUB BELIEVES IN WORTH OF ORGANIZATION

NEWARK, N. J., July 18.—That the Associated Automobile Clubs of New Jersey should take on a new lease of life and become a most powerful factor in ameliorating automobile conditions throughout the State, is the opinion of the New Jersey Automobile and Motor Club, the largest club in the State. Various rumors have been set afloat recently, apparently for various reasons, and, in order that there could be no misunderstanding of the exact situation in New Jersey, a meeting of the trustees of the New Jersey Automobile and Motor Club was called for Thursday night, when these resolutions were adopted:

Whereas, Statements have recently appeared in the press representing that the New Jersey Automobile and Motor Club was about to sever its relations with the Associated Automobile Clubs of New Jersey and also its relations with the American Automobile Association, and

Whereas, Statements have also appeared that this club was not in accord with the policy of the Associated Automobile Clubs of New Jersey in testing the constitutionality of the law; therefore be it resolved:

First—That this club is and always has been loyal to the Associated Automobile Clubs of New Jersey and expects to remain so, believing that the fundamental principle of organization is absolutely necessary for the success of all undertakings.

Second—That this club is in hearty accord with the management of the American Automobile Association and has no intention whatever of severing its relations with the association, but desires to cooperate with it in its efforts to better automobilists and automobile interests.

Third—That this board is in hearty accord with the proposed suit to test the constitutionality of the law, and to subscribe its necessary pro rata share of the expense of same in compliance with the wishes of the members of the club as expressed by a resolution unanimously passed at the annual meeting of the club on May 4.

Fourth—That copies of these resolutions be sent to the secretaries of the American Automobile Association and the Associated Automobile Clubs of New Jersey, and to the Press.

It is understood that the New Jersey club intends to concern itself immediately with increasing the efficiency of the State body, and plans are under way for a convention of all road users at Atlantic City, the result of which should be a better understanding between the automobilists and the farmers and all others who use the excellent roads of the State.

The Newark *Star* prints the following in its report of the New Jersey club's meeting: "As far as any stories of the local club resigning from the American Automobile Association are concerned, that subject has never been hinted at in New Jersey papers, and was suggested by the automobile man of a New York paper who found news dull one day last week. His article was widely copied until it grew from a suggestion into an absolute statement. The feeling between the Jersey club and the A. A. A. has always been cordial, and whatever friction there has been in the case of the New Jersey federation has arisen principally because the members of the Newark club failed to get the membership cards in the A. A. A. to which they were entitled. This matter has been amicably settled."

CHICAGO'S BID FOR THOMPSON CUP STOCK CAR RACE

CHICAGO, July 20.—The announcement that the Chicago Automobile Club wants the Thompson stock car race of the American Automobile Association has aroused a great deal of interest in automobiling circles in this part of the country, particularly as the club's application for the big event was preceded by a painstaking investigation of an available course by Chairman J. F. Gunther, of the racing board of the club. When President Hotchkiss of the A. A. A. was in Chicago attending the Republican convention, his conversation with the directors of the club led them to believe that an application for the event might receive favorable consideration, if backed up by a suitable course and military protection which appear to be forthcoming.

The projected course is in Indiana not far from Chicago, and is a 22-mile circuit without a railroad crossing on it and with but two small towns, through one of which at least no control would be necessary. There are 11 turns in all, some of them sharp, while the straightaway stretches are long and fast. With the exception of three miles, the course is an 18-foot strip of good macadam and the break in question is now in course of construction. On the tour of inspection, A. J. Banta's Locomobile roadster made 65 miles an hour on the straightaway with five people up, which gives some idea of the speediness of the course. One great disadvantage, however, lies in the necessity of establishing a control through Lowell, Ind.

GRAND PRIX WINNER TO COMPETE IN VANDERBILT RACE

PARIS, July 18.—The purchase by Robert Graves of Lautenschlager's winning Mercedes insures the appearance of the speedy German victor of the Dieppe circuit in the coming Vanderbilt race on Long Island next fall. Mr. Graves is a member of the Vanderbilt Cup commission, as well as of the Racing Board of the American Automobile Association, and constitutes one of the foreign relations committee of the A. A. A., which was appointed some weeks ago. He has already entered a Mercedes car in the Vanderbilt race this year, nominating the car which took part in the race of 1906 over the Nassau County course. His purchase of the new Mercedes which performed so well in the French race may mean that he intends to enter a second car in the Vanderbilt, or that he intends this recent acquisition to take the place of the older car previously nominated, but at all events it is certain that the Grand Prix winner will figure in the event to be held over the Long Island Parkway course, part of which is now being rushed to completion for this purpose and will shortly be ready for trials.

Just who will handle the wheel of Mr. Graves' most recent addition to his stud of racing cars when it lines up before the starter next fall is at present uncertain, but, figuring from past precedent, it is quite likely that he will bring over one of the

Continental racing cracks, and it is not at all improbable that this may be Lautenschlager himself. In previous events, Mr. Graves has retained Jenatzy, and the red-bearded Teutonic Mephistopheles has become a familiar hero on the Long Island course. That driver is now a Mors pilot.

The Mercedes racer which figured so prominently in the Grand Prix is rated at 120-horsepower, and is a specially designed racing car that embodies numerous departures from the standard construction of the German factory. The four cylinders are cast in pairs as usual, but they have been designed with domed heads and have the valves placed in the head, thus following a design which has come to be accepted as making for the very highest efficiency. The cylinder dimensions are 155 mm. bore by 170 mm. stroke, or the equivalent of 6.09 inches by 6.68 inches. A honeycomb radiator is employed in connection with a centrifugal pump for circulating the cooling water, while a Bosch high-tension magneto constitutes the ignition system. The first step in the transmission of the power consists of a Lindsay spiral spring clutch, while the gear-set provides four forward speeds and is built with three shafts. Final drive is by means of double side chains. The wheelbase is 106.25 inches, while the tread is slightly less than the American standard.

FARMAN COMING WITH HIS AEROPLANE.

Henri Farman, the French aviator, is now on his way to this country to give a series of public exhibitions at the Brighton Beach race track, which a syndicate in conjunction with the Aero Club of America arranged for recently. The aeroplane left Antwerp last Friday on the *Kroonland*. M. Farman was to sail from Havre on the same day, but at the last moment, with characteristic prudence, he refused to start unless a guarantee of 30,000 francs was made him. This was satisfactorily arranged, and the aviator left according to schedule on the *Touraine*. Thomas R. McMechen, a member of the syndicate, after receiving a cablegram from F. S. Lahm, the foreign representative of the club, stated that he was now assured that the exhibition flights would begin as planned on July 29.

THAT TOLL BRIDGE ACROSS THE CONNECTICUT.

HARTFORD, CONN., July 20.—The Warehouse Point, Windsor Locks, toll bridge has been thrown open as a free bridge, and hundreds of motorists who have been well "stung" for excessive bridge tolls in the past will rejoice at the new turn of affairs. About 20,000 people participated in the celebration at Windsor Locks, Saturday afternoon and evening. Heavy electrical storms prevailed more or less throughout the day, but this did not interfere to any extent with the program. Members of the Hartford and Springfield clubs were present and took part.

NO MUFFLER CUT-OUTS IN NEW YORK.

According to Police Commissioner Bingham of New York City, the muffler cut-outs on automobiles and motorcycles come in the same class as whistles on peanut roasters, ringing of bells by scissors-grinders, and the yelling of "old clothes" men. The nine thousand policemen of Greater New York have instructions to remonstrate gently but firmly with any inconsiderate chauffeur who thus offends the public ear. The ban is also placed on all unnecessary blowing of horns and sirens. Chauffeurs who return to the garage at 2 a.m. must now arouse the watchman in the orthodox way, instead of serenading the whole neighborhood until they gain admittance.

EXCESS LICENSE MONEY FOR GOOD ROADS.

LANSING, MICH., July 20.—Michigan's State Highway Commissioner, familiarly known as "Good Roads Earle," will receive \$12,000, collected by the Secretary of State for automobile licenses, over and above the cost of running the license department, to be used in the still further betterment of the highways in the State. Great things are expected from the use of this fund, as it is to be used not for the actual building of roads, but for the expenses of the men who are to be sent to the counties in the State in which the "county good roads system" has not been adopted as yet, on an educational tour to show the farmers the meaning of good roads to them.

HOOSIERS ARE AFTER ROADS AND GETTING 'EM

INDIANAPOLIS, IND., July 20.—The United States Government is doing more to extend good roads work in Indiana than all other associations combined. Estimates of \$8,000,000 for road building in Indiana this year will probably be insufficient, for the amount to be expended will probably reach a larger sum.

Before the advent of rural routes, the farmer was more or less indifferent about the condition of the roads. In the last few years, however, he has been buying automobiles and has grown accustomed to having the mail left almost at his door. Recently, however, the Government, through its postal authorities, have been demanding vigorously that roads shall be improved still

more. In the vicinity of Charlestown the entire rural mail service threatens to be discontinued because of bad roads and farmers are now projecting the building of forty-one new roads.

In other parts of the State officials and business men are hurrying through road improvements to save rural routes. Madison County is preparing to build twenty-one new roads at a cost of \$250,000. At South Bend the Business Men's Association is making special efforts to have good roads built. A few days ago township trustees and road supervisors of three counties met at Peru to discuss good roads. George Allen was elected president and C. F. Davis secretary of a good roads body.

MIDSUMMER DOINGS OF THE AUTO CLUBS

SYRACUSE CLUB IS ACTIVE IN SIGN WORK.

SYRACUSE, N. Y., July 20.—During the past year, the Automobile Club of Syracuse has made an excellent gain in membership, its roster now containing 175 names, which means that it has practically doubled in strength within the past two years. Secretary Forman Wilkinson is about to launch a campaign to recruit the one hundred odd autoists of the city who are not at present affiliated with the club, for to quote him, "They need us as much as we need them." The organization is carrying out so much good work that every progressive autoist should lend it his financial as well as moral support, for every owner of an automobile within a radius of more than 50 miles benefits directly by the club's efforts for better conditions. It is estimated that the number of cars in Syracuse has grown by 50 per cent. within the last year, now totaling something like 350.

A great amount of work has been carried out this summer in placing route and danger signs, the Syracuse club being a pioneer organization in the provision of railway crossing signs. No less than 150 signs of various kinds have been placed in Onondaga county alone this summer and specifications have already been drawn for an additional lot of 75 to be placed in various small towns in this district. The Empire State is sadly deficient in these signs and the Syracuse club is setting an excellent example.

BOROUGH OFFICIALS IN PENN. TRY SPEEDS.

MEDIA, PA., July 20.—Last week several members of the Automobile Club of Delaware county gave President Samuel A. Field, of the borough council, and four other councilmen, a practical demonstration of the meaning of the various speed limits as applied to an automobile. Beginning with the legal borough limit of 10 miles an hour, which was characterized by the solons as a "snail's pace," the driver "hit it up" to 20 per, and showed how the car could be stopped within its own length while traveling at that gait. Then the borough fathers were taken to the Springhaven Country Club, the odometer showing a 40-mile clip at times. The lawmakers were charmed with the performance, especially when the car was brought to a dead stop in 25 feet while traveling at the last-named speed.

The club is doing excellent work in keeping the speed within the limits, all of the members having subscribed to the "honor" plan, agreeing to at all times observe the State and borough regulations. The club has two paid agents constantly on the road warning automobilists against overspeeding. Signs have been posted on the most tempting stretches bearing the legend: "No scorching or speeding through the boroughs."

As a result of the *entente cordiale* between the authorities and the club, Media is becoming a veritable automobile heaven, and the latter can have anything within reason that they want. Appeals for road repairs are responded to instantaneously, not alone in the boroughs but in the surrounding townships.

HARTFORD AUTOMOBILE CLUB IS GROWING.

HARTFORD, CONN., July 13.—The Automobile Club of Hartford continues to expand. Several of the members favor consolidation with the Hartford Yacht Club, making it possible to have a rendezvous at Fenwick, the Sound station of the yacht club. The growth of the club in the past nine months is remarkable. It is quite likely that the 300 mark will soon be reached. A clubhouse is talked of, though that cannot come for a while as yet. The present quarters in the Allyn House have proven very popular and useful for transient motorists who desire some authentic information concerning roads.

The newly formed Automobile Club of Willimantic, near here, is in a prosperous condition, and the membership is gradually increasing. Needless to say, the gain of any individual club means a gain for the Connecticut Association, and this is much desired in order that its scope of influence may be extended.

ANOTHER CUP FOR CONNECTICUT BODY.

TORRINGTON, CONN., July 20.—Twenty-five enthusiastic automobilists of this town met recently to organize the Litchfield County Automobile Club, of Torrington. John N. Brooks was chosen chairman of the meeting, and N. D. Holbrook, secretary. Mr. Brooks briefly outlined the purposes of the club, and later Mr. Holbrook read a communication from E. K. Dustin, secretary of the Connecticut Automobile Association, showing the objects of that organization and what its benefits were. The following officers for the ensuing year were elected unanimously: President, N. D. Holbrook; vice-president, John N. Brooks; secretary, W. P. Norton, Jr.; treasurer, George E. Cole. There will also be four standing committees on good roads, sign posts, membership and rights and privileges. The chairmen of these committees, who, according to the by-laws, was appointed by the president, are F. P. Latimer, J. H. Baeder, F. W. Mertz and Dr. Elias Pratt, respectively. Together with the four officers, they will form the governing board and will have the right to select the other two members of each committee.

There are said to be over seventy automobiles owned in Torrington and almost as many more in the surrounding towns. Efforts will be made to persuade all owners in the vicinity to join the club, which will then be affiliated with the Connecticut Automobile Association. The club will also attempt to get rid of several dangerous "thank you marm's" and grade crossings. The next meeting will be held about the first of August.

PENN. LAWMAKERS AND AUTOISTS IN HARMONY.

PHILADELPHIA, July 20.—The "honor" plan of solving the speeding problem in the townships and boroughs roundabout this city gives evidence of proving much more satisfactory than the "iron glove" method. The scheme was first inaugurated in this section by the Norristown club, when the members obligated themselves to faithfully observe all regulations at all times, and to do their utmost to induce others to do likewise, and, failing this, to assist in the prosecution of those who persistently violate the laws. The result has been a separation of the sheep—the club members—from the goats—the "unattached." It has been demonstrated that fully 80 per cent. of the convictions for speeding have been among non-club members.

In the smaller towns especially the scheme is working well. In Lancaster, Norristown, Media, and other places hold-ups by the authorities have become a variety, and in the majority of instances where a motorist is stopped it is found that he is some unattached wight who feels that he is not obligated by any action a club of which he is not a member may take; or else he is a stranger in the land, and is not "wise" to the existing conditions. In the latter case the culprit is usually let off with a reprimand; in the former he gets the limit.

That these "brotherly love" conditions do not obtain in all sections of the country hereabouts is evident from the weekly warning bulletin of the Automobile Club of Philadelphia, which calls attention to traps on the smooth roads between Hulmeville and Oxford Valley and between the latter place and Langhorne. To offset the efforts of the officers, the club has stationed men 100 yards above and below these traps, and will keep them there until the traps are abandoned. If established elsewhere, the club's watchers will follow them, and continue their warnings until the traps are finally abandoned.

AKRON CLUB IN OHIO'S ROAD CAMPAIGN.

AKRON, O., June 23.—The Akron Automobile Club has taken steps to bring about the construction of a paved road from Akron to Cleveland, a distance of 32 miles. The movement is in response to the efforts of the State Automobile Association to have the motorists of this section unite in the general good roads movement now sweeping the State. A paved roadway already exists to Brecksville, some nine miles south of Cleveland.

THE WINNERS IN THE WINTON CHAUFFEURS' CONTEST

THE winners in the \$2,500 contest for Winton Six chauffeurs have just been announced and the prizes distributed. First prize was taken by Frank Schneider, driving for Milton Schnaier, of New York, with a record of 11,683 miles in seven months at a total repair expense of \$12. The judges were E. E. Schwarzkopf, A. C. Faeh, St. Clair Couzens and M. M. Maxwell. Their decisions were based on monthly reports from the chauffeurs, certified by the owners, and final affidavits from both chauffeurs and owners. Schneider's expense of \$12 was not incurred until after his car had run 8,000 miles, and as no other contestant had reached this figure without expense, the judges were unanimous in awarding him first prize.

Second prize goes to Arthur Donovan, chauffeur for J. Axelrod, of New York, who reported a mileage of 7,570, with no upkeep expense.

Harry A. Toomey, of Euclid, O., driving for Harry S. Pickands, won third prize on a mileage of 6,632.9, with no expense. Toomey's original report showed an expense of \$284.85, but as this was caused by an accident while the wife of his employer was driving the car, the judges held that it should not be charged against him.

There were ten prizes, ranging from \$1,000 to \$100. All contestants who drove their cars more than 3,000 miles were awarded handsome gold watches, suitably engraved. It is noteworthy that six of the ten cars finished without any repair expense whatever. This is quite a feather in the cap of the Winton Company, and also shows the importance of having some incentive for the chauffeurs to take proper care of their cars.

Prize.	Amount.	Chauffeur.	Owner.	Residence.	Mileage.	Time.	Average per Mo.	Expense.
First	\$1,000	Frank Schneider	Milton Schnaier.....	New York, N. Y.....	11,683	7 months.	1,669 miles.	\$12.00
Second	500	A. J. Donovan.....	J. Axelrod.....	New York, N. Y.....	7,570	3.5 months.	2,162.8 miles.	none.
Third	250	Harry A. Toomey.....	Harry S. Pickands.....	Euclid, O.....	6,632.9	10 months.	663.3 miles.	none.
Fourth	150	Chas. L. Bonner.....	Jas. T. Brennan.....	Brooklyn, N. Y.....	6,806	8 months.	850.7 miles.	\$3.00
Fifth	100	James Boice.....	Warren Somers.....	Atlantic City, N. J.....	6,183	7 months.	883.3 miles.	\$0.02 1-2
Sixth	100	A. R. Cowperthwaite.....	Mrs. L. R. Speare.....	Newton Center, Mass.....	6,113.6	4.5 months.	1,358.5 miles.	none.
Seventh	100	Joseph Arnold.....	Joseph Fish.....	Chicago, Ill.....	5,535	6 months.	922.5 miles.	none.
Eighth	100	James Townsend.....	H. H. Roelofs.....	Elkins Park, Pa.....	5,415	6.3 months.	855.4 miles.	none.
Ninth	100	G. W. Butler.....	J. E. Clenny.....		5,155	3.2 months.	1,628.2 miles.	none.
Tenth	100	E. C. Knapp.....	E. A. Rooney.....	Buffalo, N. Y.....	4,500	5.5 months.	835.3 miles.	\$0.10

Summary.—Ten cars ran 65,687.5 miles in 61 months, averaging 1,076.8 miles per month per car. Repair expense, \$15.12 1-2, averaging \$1.51 per car; or 25 cents per month per car.

Such contests teach owners what they may expect in the way of economical upkeep, and should have the effect of making them less lenient in their review of the monthly garage bills, which so frequently contain numerous unwarranted items.



Frank Schneider, Winton Contest Winner, and His Car.

The Winton Company announces that this contest will be repeated in 1909, conditions to be announced later. The table which is appended furnishes the data of the ten prize winners:

A. L. A. M. TAKES IN A NEW MEMBER.

For the first time in two years the Association of Licensed Automobile Manufacturers has admitted a new member. This was the Chalmers-Detroit Company (formerly the E. R. Thomas-Detroit Company), which was taken in at the meeting on July 17. This action was expected by many, as the Chalmers-Detroit Company had been selling their cars under the license of the E. R. Thomas Motor Company, of Buffalo. The license now granted is an independent one and places it on the same footing as the original members of the Association. The admittance of this company is announced to be mutually advantageous, as the Association will now have in its ranks another low-priced car, the lack of which has long been felt. This action is said to indicate the general policy which the Association intends to carry out, and it is believed to be the first move in a campaign of enlargement.

Roy D. Chapin, the treasurer and general manager of the Chalmers-Detroit Company, was very much pleased by the attitude of the association, and values highly the advantages which will accrue to his company through the new arrangement. The Chalmers-Detroit car will be sold by the licensed automobile dealers throughout the United States, and will exhibit at the Madison Square Garden show to be held next January. Mr. Chapin is very optimistic for next year's outlook.

BARTHOLOMEW 1908 OUTPUT COMPLETED.

PEORIA, ILL., July 20.—The last of two hundred Glide cars, the Bartholomew Company's product for 1908, was completed to-day. Plans are now being made for the season of 1909, and it is the company's intention to market a still larger number of cars than this year. They will continue to use the Rutenber motor, made by the Western Motor Company, of Logansport, Ind. There will be but one model, styled the Model "G" Special. It will have 43-4x5-inch motor, with magneto ignition, with a wheelbase of 120 inches, and in its general lines will follow the 1908 model. A roadster will also be built on the same design, except that the wheelbase will be 106 inches, and the steering post will be given a greater rake. This car will be furnished with two types of bodies, one with a collapsible double-rumble seat, and the other with a close-coupled design.

On account of the constantly increasing Eastern trade, O. Y. Bartholomew, the present treasurer of the company, has been appointed Eastern manager. He will assume his new duties August 1, with headquarters at Philadelphia. With his personal attention and supervision it is believed business in that section will show a still added increase, as, up to the present, the company has not been in a position to devote the measure of attention to the Eastern trade that the demand for the Glide merited during the past three or four years.



Holsman Model 4—The Latest High Wheeler.

NEW MODEL HOLSMAN MAKES ITS DEBUT.

In order to bring out a car within reach of a much greater number of people, the builders of the Holsman, the Holsman Automobile Company, 444 Monadnock Block, Chicago, have modified the lines of their standard machine and while still maintaining the same design and constructional features throughout, as well as the same grade of materials, have produced what is officially known as the Model No. 4 Holsman runabout. The same power plant is employed as in the high-priced machines, and in many ways it is identical with them; the same high-grade forgings, castings, seamless steel tubing are used throughout. The wheelbase is 65 inches, while any tread from 52 to 62 inches is optional with the purchaser, the car weighing 800 pounds all on. It has a gasoline capacity of 5 1/2 gallons, on which it can cover 150 miles, and is equipped with solid rubber tires on the usual high wheels. In complete running order it lists at \$550, the top and side lamps being extra.

Some idea of its appearance may be gained from the photograph of the first one of the new series in the Holsman fold, that tops the head of this column. It is there shown in complete running order, minus head or side lights.

A NEW CAR FOR 1909—THE WOODS.

Walter A. Woods, the general manager and treasurer of the Cleveland Motor Car Company, has resigned his position in that company and will now be at the head of a new concern located in Milwaukee, Wis. A six-story building now under construction on "automobile row" in New York City will be occupied by the new company as their headquarters and will be opened about September 1. Temporary offices have been secured in the Miller building, 1931 Broadway, New York City.

The new car will be of the four-cylinder type of five-inch bore and stroke, and will have double ignition with high-tension magneto and the now popular self-contained oiling system. The change-gear will be of the selective type, four speeds forward and one reverse, with direct drive on the third speed. The clutch will be the improved Woods design multiple disc, containing 52 metal plates or discs running in oil and inclosed in a separate case. A new feature of this clutch is a form of brake which absolutely prevents the discs from turning while shifting gears, rendering this operation entirely noiseless and eliminating one of the principal objections to this type. The wheelbase will be 122 inches for touring cars, limousines and landaulets, and 112 inches for runabouts, toy tonneaus and town cars. Fully equipped with top, slip covers and glass front, the car will sell for \$3,500.

Work on the 1909 product has already been begun, and deliveries will start on or about October 1. The new car will be known as the Woodsmobile, thus identifying it with the founder of the company, who for the past 15 years has been actively identified with the industry.

A. M. C. M. A. MEMBERSHIP ON THE INCREASE.

During the past week three more automobile manufacturing concerns have been admitted to membership in the American Motor Car Manufacturers' Association. They are as follows: Holsman Automobile Company, Chicago, Ill.

W. H. Kiblinger Company, Auburn, Ind.

Midland Motor Car Company, Moline, Ills.

The first two are well known as producers of the high-wheeled buggy type of car, of which such a large number are now in use in the West, while the Midland is a touring car of standard construction which is now being turned out by the new company which took over the plant of the former Deere-Clark Company.

MEMPHIS WILL HOLD GOOD ROADS CONVENTION.

MEMPHIS, TENN., July 20.—Draining the swamps and improving the roadways of the lower Mississippi are subjects to be discussed by a convention to assemble here July 27.

In this section of the country swamp drainage is imperative, from a national as well as a territorial standpoint, and the accomplishment will materially lessen the good roads problem now confronting this State. Memphis needs good roads—north, south, east and west—and it is hoped that by concerted effort at the coming convention much may be accomplished.

The automobilists here—500 of them—are not organized. As individuals they are all interested in this movement, but lacking an organization they cannot throw their combined strength in favor of good roads at the meeting.

CONVENTION OF MAXWELL DEALERS.

The main office of the Maxwell-Briscoe Motor Company at Tarrytown, N. Y., was a busy place last week on account of the annual convention of the company's branch-house managers. The first day's session was devoted to reports on business conditions throughout the country; Tuesday the guests went on a "rubberneck" tour through New York, dining that evening at the Café Martin. In a business session following the dinner Mr. Briscoe divulged part of his new selling plan, which he believes will revolutionize the methods of selling automobiles in this country.

Among those present at the banquet were Benjamin Briscoe, J. D. Maxwell, W. S. Hathaway, New York; P. Chiera, Detroit; T. B. Smith, Chicago; J. W. Willcox, Los Angeles; J. C. Handley, Dallas, Texas; C. G. Bleasdale, Cleveland; C. F. Benzing, Buffalo; C. F. Monroe, Buffalo; T. F. Dunn, Pittsburgh; F. J. Tyler, Boston; C. W. Kelsey, Philadelphia; A. R. Gormully, Tarrytown, N. Y.; J. M. Austin, Atlanta, Ga.; E. W. Davenport, Col. K. C. Pardee, and R. Irvin, New York City; F. D. Dorman, Tarrytown, N. Y.; L. W. Hazard, High Point, N. C.; A. I. McLeod, Detroit; F. J. Linz, San Francisco; Ernest Coler, Dobbs Ferry, N. Y.



Maxwell Branch Managers at Their Annual Convention.

NEW MICHELIN DISMOUNTABLE RIM.

Since the first dismountable racing rims came into use for the French Grand Prix of 1906, a few changes have been made in the details of these time savers, but the principle of such well-known makes as Michelin, Continental and Vinet has remained unchanged. As is generally well known, eight or more nuts have to be withdrawn and put into place again in the operation of changing a tire. When a revolver brace, such as is supplied with the Michelin rim, is employed, the operation is not a long one, it being possible to make a change, even under ordinary touring conditions, in the short interval of two minutes.

But two minutes is a long time with automobile races as keenly disputed as they are at present, and the Michelin people have sought to reduce the time to a considerable extent. The new rim, after undergoing long private tests, has been supplied to drivers in the Grand Prix, and will make its first public appearance on July 7 at Dieppe. Instead of eight bolts, there is now one fastening only, and no part whatever other than the rim to be taken off in making a change. With this improved type it is possible for a race driver to change a tire in 30 seconds, as we have proved under actual conditions.

The fixed rim, instead of having the inside edge raised and the outside flush, as in the earlier types, has both inner and outer edge beaded. The dismountable rim bearing the inflated



New Dismountable as It Appears on the Wheel.

accommodate the projecting portions. Instead of spaced bearing points as on the earlier type of rim, the two surfaces are in complete contact for their entire circumference, this arrangement considerably increasing the strength of the wheel, which is now completely bound. An ordinary type of long valve is employed, and the usual style of lugs with the short countersunk stems familiar to all users of dismountable rims.

Private tests which have been carried out by the Michelin factory for several months have shown that the rim was fully as strong as the earlier models; the ease of changing is obviously very much greater. It is with full confidence that it is safe and a time saver that it has been offered to all drivers of cars fitted with Michelin tires in the Grand Prix race. The new device will be used for the first time among others by Lewis Strang, the pilot of the American Thomas in the Grand Prix.



Single Fastener of the New Michelin Rim.

tire is split, and when in its open position leaves a gap of about three-quarters of an inch. The gap in the face of the rim is covered over by an internal brass lining, the main object of which is to prevent the nipping of the tube when the rim is closed up.

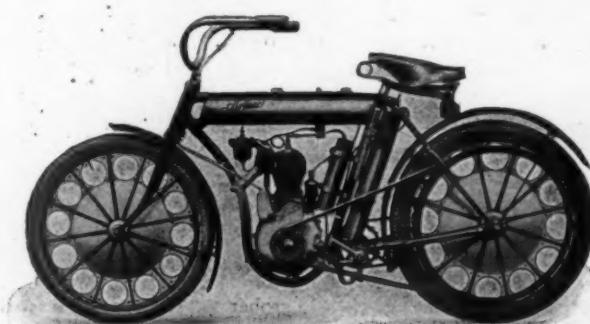
The two ends of the detachable rim are connected by a right and left screw fitting into a steel case riveted to each extremity of the rim. The central portion of the screw bears a worn gear operated by a small pinion within the casing shown in illustration, by the operation of which the two ends are brought together, this contraction being sufficient to bind the dismountable rim on the fixed rim. Immediately above the worm gear is a longitudinal pointer, the object of which is to show what degree of opening or closing has been obtained.

The fixed rim and felloe have had to be cut in order to accommodate the projecting lugs and the worm gearing. The hole goes right through the wooden felloe, but all the moving parts are protected by a sheet metal casing on the inner face of the felloe. Naturally, the outer face of the felloe has had to be pierced also to allow of the insertion of the square-ended bit which operated the gear. This opening is protected by a hinged metal cover, so that when the rim is in position it is impossible for either dust or moisture to settle on the threads or to reach the bearing surfaces of the rim.

The maximum expansion of the rim is just sufficient to allow it to be fitted over the outer edge of the fixed rim. In addition to contracting the rim, the turnbuckle prevents creeping, the opening made on the wooden felloe being just sufficient to

INDESTRUCTIBLE WHEELS FOR MOTORCYCLES.

It is evident from the illustration, picturing an Armac motorcycle equipped with Indestructible steel wheels of the type made especially for automobiles, that there is an unlimited field for the application of wheels of this kind for service where the wood or wire-spoked wheel has been universally used up to the present. For motorcycle use, the Indestructible wheels are equipped with Eclipse hubs, and, according to the manufacturers, the Indestructible Steel Wheel Company, 1211 Michigan avenue, Chicago, they have many advantages over the wire wheel ordinarily employed for this purpose. They are not only much stronger and more durable, but their enameled finish is also much more lasting than nickel plating. They are as resilient as a wire wheel and cannot get out of true, while there is no danger whatever of their collapsing, or of obstructions getting through them. Protection is also afforded for the tire valve, and means are provided for locking the valve nuts, so that the tire is prevented from creeping on the rim, even under the most strenuous conditions of high speed traveling over any kind of roads. Their ability to withstand treatment that would ruin a wire wheel should recommend them to motorcyclists.



Motorcycle with Indestructible Steel Wheels.



How the Supply of Fuel is Assured on Hills.

RAMBLER SUPPLEMENTARY GASOLINE TANK.

Although every automobile manufacturer that has been building cars for any number of years has long since reached a standard of construction for his product that is consistently adhered to, there is always room for improvement in detail. Thomas B. Jeffery & Company, Kenosha, Wis., have found this to be the case, the latest refinement they have added to the Rambler being an auxiliary gasoline tank to insure a supply to the carburetor on hills, particularly where the latter are long, stiff grades. This new auxiliary tank, as shown by the accompanying photograph of a Rambler power-plant that has been fitted with it, is located above and behind the carburetor, and considerably below the level of the main tank. It has sufficient capacity to run the car for several miles on an upgrade and is so arranged that the gasoline will flow into it from the main supply on a level or a slight upgrade, but it cannot empty back into the main supply under any conditions of running. It measures 4 inches in diameter by 10 inches in length.

ONE OF THE MANY RAMBLERS IN MEXICO.

Mexico is proving quite a field for the American manufacturer to develop, as is already evidenced by the rapidly increasing number of cars of well-known makes that hail from across the border as compared with those brought from Europe. The foreign manufacturer has been more progressive in past years in introducing his product to this market, but within the last twelve-month American makers have gained a great deal of lost ground and are now making rapid strides, the winning of the first Mexican road race for the Jalisco cup by an American car over its high-powered foreign rivals showing that American automobiles are built for the roughest kind of roads to be found.



A Native Driver of a Rambler in Mexico.

MAY SHOWS A FALLING OFF IN EXPORTS.

According to the report of the Department of Commerce and Labor for the month of May last, there has been a considerable falling off in the value of the American automobiles and parts sent abroad, as compared with the same month of a year previous. This is principally to be accounted for by the fact that there has been a heavy cut in the English demand as shown by the difference in the figures for the United Kingdom during the two months in question. It is somewhat anomalous to note in the same connection that the American exports to France increased from \$85,984 to \$100,597 during May, 1908, as compared with May, 1907, while the returns for Germany and other Europe also show substantial increases. For the period of 11 months ending with May in the past three years, the totals are for 1906, \$2,957,748; 1907, \$4,770,187; and 1908, \$4,567,125.

LOGAN SIGHT-SEEING CAR IN COLUMBUS.

During the past year or so one of the most prominent features of the demand for commercial vehicles has been the great number ordered for sight-seeing service. The Logan Construction Company, Chillicothe, O., have found this to be the case with their three-ton Model S chassis, which makes an excellent car of this type, as will be evident by the accom-



Logan Truck Built for the "Rubberneck" Business.

panying photograph of one of them that has just been supplied for service in Columbus, O. There are six seats back of the driver's, each of which is 6 feet wide and is designed to accommodate five persons. The tire equipment consists of 36 by 5-inch solids front and 36 by 3 1-2-inch twin tires on the driving wheels. Steering is made easy by the use of Timken roller-bearings in the steering knuckles. The gears of the change-speed gear-set are all of Krupp chrome-nickel steel, while the shafts are vanadium steel. The car shown was run from Chillicothe to Columbus, a distance of fifty-one miles, in about five hours. It is designed for a maximum speed of twelve miles an hour, but the roads were not in shape to permit of this.

STANLEY STEAMERS QUIT RACING.

Announcement was made yesterday by W. J. Morgan, secretary to the trustees controlling the Sir Thomas Dewar international mile trophy, that the Stanley Motor Carriage Company had returned the cup with the statement that they were out of racing. The contest for the trophy was not held at the Ormond-Daytona meet this year, as usual, because the rules adopted by the trustees were at variance with those established by the A. C. A. There was some talk of a match between the twelve-cylinder Maxwell racing car and the Stanley, but that, of course, will not now take place. It is possible, however, that a race for the trophy may be held some time this summer, if a fast mile straightaway course can be secured.

BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

Otto Holler, manager of the Paul Thumann Machine Company, Duesseldorf, Germany, Hansahaus No. 155, is interested in the representation of a small and cheap automobile for business and touring purposes, and will be glad to have catalogues and all particulars from prominent American firms.

Owing to a transposition in make-up in last week's issue of *THE AUTOMOBILE*, on page 99, the P. & S. Skimabout was given second place in the summary of the Arrowhead hill-climb, in the \$1,251 to \$2,000 class. The P. & S. Skimabout won the contest, and its time was :294.5; not :494.5, as printed.

E. R. Stockwell, Mechanicsburg, O., agent for the Reliable Dayton, accompanied by W. E. Sanger, also of that city, drove a Reliable Dayton type "E" to the Chicago factory and return last week, spending two days on the road each way and two days traveling about the vicinity. The total distance covered was 834 miles, an average of 139 miles per day. The longest day's trip was 209 miles.

For several years John D. Rockefeller has owned a White limousine and has taken a daily outing in it, no matter where he was staying. A few days ago he bought another White, but this time with a touring body. The supposition that Mr. Rockefeller intends to do some cross-country touring is strengthened by the fact that he has written to the touring bureau of the White Company asking for a set of White route books and making inquiries about State licenses.

The last car of the Winton Six-Ten-Six output has left the factory, and is now on its way to Wm. R. Hearst. It is fitted with a handsome landau body finished in maroon. Delivery was delayed until this time owing to Mr. Hearst's absence in Europe. The Winton factory has been at work for several weeks on the 1909 output, which, as has been already announced, will consist of six-cylinder cars exclusively. Details of the company's plans for 1909 will be announced August 1.

The Ventilated Cushion & Spring Company, Jackson, Mich., through their attorneys, Rummel & Rummel, have just brought an action against Frank D'Arcy, of Kalamazoo, in the United States Circuit Court for the Western District of Michigan, to uphold what is known as the Stott's patent on springs of the type usually employed in automobile work. The special feature of the latter that is covered by the patent in question is an auxiliary or supplementary spring construction. The suit also protects the rights of the Jackson Cushion Spring Company, as licensees.

When the Y. M. C. A. relay runners carrying Mayor McClellan's message from New York to Chicago reached Syracuse, N. Y., the H. H. Franklin Mfg. Co. loaned three of its motor trucks to carry the spare runners. At 8:15 Thursday evening the silver tube containing the message was passed from the last Rome runner to the first Syracuse boy, in front of the Syracuse Y. M. C. A. The Franklin trucks, loaded with the runners, followed close behind, and at the end of every four minutes, or sooner if necessary, a fresh boy leaped from the truck, grasped the message, and sped on his way. The trucks took the boys as far as Auburn, where the message was delivered to the Y. M. C. A. of that city.

NEW AGENCIES ESTABLISHED.

The Philadelphia agency for the Clambers-Detroit has been placed with the Bergdoll Motor Car Company, Broad and Wood streets, that city.

The Pardee Motor Company, 1229 Michigan avenue, Chicago, has been appointed agents in that city for the Oakland, made by the Oakland Motor Car Company, Pontiac, Mich.

E. P. Moriarty & Company has been appointed agents in Kansas City, Mo., for the new Chalmers-Detroit. It is likely that western Missouri and Kansas will be included in the territory represented.

The Philadelphia Auburn agency, at 441 North Broad street, has just completed arrangements for the establishment of sub-agencies at Reading and Orwigsburg. The former will be in charge of D. M. Sohl; the latter of R. E. Yeager.

The Morrison & Price Company, Boston agents for the Rainier, Mora and Wayne cars, has just been appointed the representatives at the Hub of the New Everett, to be manufactured by the Verett-Metzger-Flanders Company, of Detroit, Mich.

The White Company has opened a branch office at Minneapolis, in charge of John F. Toole. Mr. Toole states that his company has felt for some time that their line of customers in Minnesota territory were entitled to the service which a branch guarantees. A completely equipped shop in which White mechanics only are employed has been started.

PERSONAL TRADE MENTION.

L. D. Mack has just been transferred from the New York branch house of the Packard company to act as assistant to A. T. Fuller, Boston agent for the Packard.

Arthur Moore, who has been connected with the passenger department of the Erie Railroad, has joined the sales force of the New York City branch of the Firestone Tire & Rubber Company.

Harry Fosdick of the Hol-Tan Company, of New York City, is taking a vacation of several weeks for rest and recreation. Most of it will be spent at Lake Winnepesaukee in New Hampshire.

A. B. Henley, for some time connected with the New York branch of the H. H. Franklin Manufacturing Company, of Syracuse, N. Y., has been made permanent manager of the Franklin branch at Boston.

Former Manager A. J. King, of the Philadelphia Studebaker branch, has joined the selling force of the Quaker City Automobile Company. He will have charge of the Peerless department of the company.

J. C. Zimmerman, for the past two years head of the sales department of the Western branch of the Fisk Rubber Company, of Chicopee Falls, Mass., has just been appointed manager of the Chicago branch of that company.

Walter S. Shawyan, who has been connected with the Chicago branch of the Locomobile Company, has joined the sales force of the Schreiber Motor Car Company, Milwaukee Locomobile agent.

William Stegeman, who has been considered for years by the western motor car makers as one of the prominent factors in the development of automobiles, has just

joined the forces of the Palmer & Singer Manufacturing Company as chief engineer.

W. Wayne Davis has been appointed manager of the new branch of the Matheson Motor Car Company which has just been opened at Broad and Green Streets, Philadelphia. Mr. Davis was formerly connected with the Quaker City Automobile Company.

H. E. Butcher, formerly of the H. E. Butcher & Company, manufacturers' agents, with offices in the Stevens building, Detroit, has accepted a position with the Timken Roller Bearing Axle Company as traveling salesman. He will make his headquarters at Detroit.

F. H. Sanders, for several years the Franklin demonstrator and salesman for Adams & Hart, Grand Rapids, Mich., and recognized as one of the best automobile experts and salesmen in that section, has been employed as field salesman for the H. H. Franklin Manufacturing Company.

T. E. Hamilton, who has been acting as sales manager for the H. C. & C. D. Castle Company, Boston, has severed his connection with that concern, and has been appointed New England agent for the Haviland Oil Company. F. B. Armington will be associated with Mr. Hamilton, and they will open up on Boylston street.

A. A. Ledermann, for four years assistant engineer of the George N. Pierce Company, of Buffalo, has resigned his position with that company, to go into business for himself. Under the firm name of the A. A. Ledermann Company he will be located in a new garage at Utica, N. Y., and will have the agency for the Pierce-Arrow in central New York.

Ernest H. Brandt, formerly sales manager for the Corbin Motor Car Company, has been appointed Eastern manager for the Cadillac Company, with headquarters at 1649 Broadway, New York City. The company has taken the Mineola stable, at Columbus Circle, which will be remodeled for their use, and which they intend to occupy about October 1.

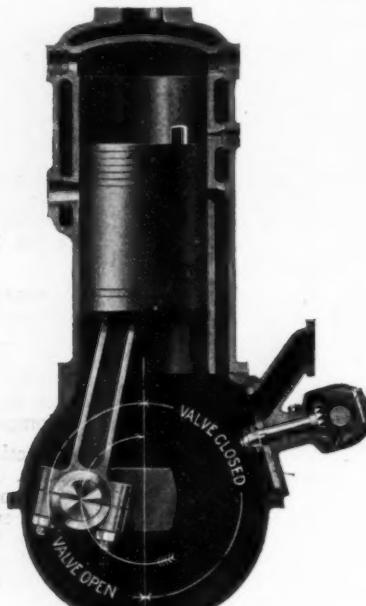
George C. Hubbs, for many years advertising manager for the Morgan & Wright Company, Detroit, Mich., has handed in his resignation, to take effect August 1. He will then be associated with the Long-Critchfield advertising agency in Chicago. No successor to Mr. Hubbs will be appointed, as he will continue to look after the Morgan & Wright advertising in his new position.

Charles L. Stevens, formerly manager of the Hartford Suspension Company, has just been appointed the Eastern sales manager of the Midland Motor Company of Moline, Ill., and is now located in New York, making his headquarters at the Allenhurst Garage, the New York home of the Midland. Mr. Stevens has recently been connected with the Matheson Auto Company of Denver.

Harry L. Owesney, who has been acting as assistant manager of the San Francisco branch of the Winton Company, has been appointed manager in place of Charles M. Brown, who has taken the management of the New York branch of the company, while W. L. Duck, who was the former London manager of the Winton Motor Carriage Company, has been appointed manager of the Baltimore branch of the company, vice R. L. Williams, who resigned.

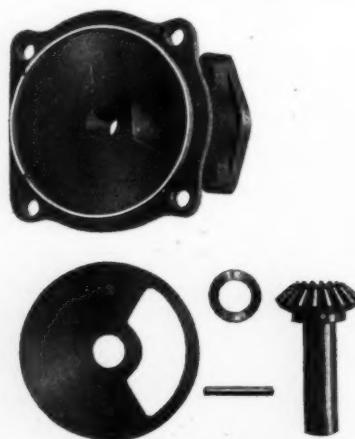
INFORMATION FOR AUTO USERS

Willet Motor—This represents a departure from current practice in this country, in that it is a two-cycle type of internal combustion motor fitted with a rotary inlet valve, the latter being water-cooled. It is the product of the Willet Engine and



SECTIONAL VIEW OF WILLET MOTOR.

Carbureter Company, 764 Ellicott Square, Buffalo, N. Y. The cylinders are cast in pairs, and are made from the finest grade of gray iron, containing a percentage of Bessemer steel. The exhaust ports are so arranged that there are no sharp turns, thus eliminating any back pressure in the cylinders. The pistons are of the same material, and are fitted with four rings; they are of the Mercedes type, and, owing to their extreme length, they insure long life to the motor. Connecting rods are steel drop-forgings, fitted with cast-iron

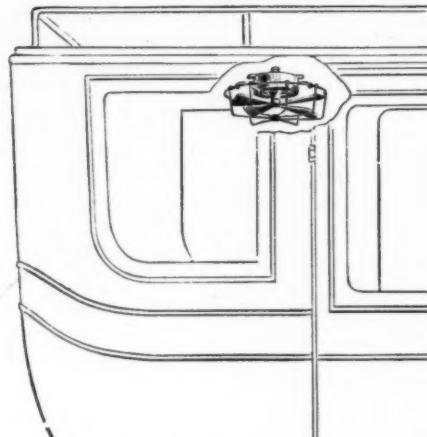


DETAILS WILLET ROTARY VALVE.

bushings on the piston pin and interchangeable nickel babbitt bearings on the big ends. The two-cylinder motor has three bearings of open-hearth steel, ground on all surfaces. The crankcase, which is of aluminum, carries the gear case and the rotary valves. These gears run on annular ball-bearings, are marked to insure the proper timing, and are easily removable

for inspection. Where the rotary valve is concerned, the valve housing makes the seat for the valve, and is cast of bronze. The valve itself is cast-iron, and is self-grinding and adjusting. It is driven by miter gears, and permits a full charge to enter the crankcase, regardless of the engine speed, making the motor extremely flexible. Thermo-siphon circulation is employed, while dual ignition using a high-tension magneto is fitted, a mechanical, gear-driven oiler taking care of the lubrication. The Willet motor is made in sizes ranging from 8 to 70 horsepower, all being properly counterbalanced, so that they run very smoothly at any speed.

Limousine Electric Fan—The Motor Car Equipment Company, 1727 Broadway, New York, is introducing an electric fan designed for use in limousines. The motor is adapted to run on the current of an



LOCATION OF LIMOUSINE FAN.

ordinary 6-volt ignition battery. The fan is intended to be placed in the roof of the car, and, being very powerful, keeps the air inside always cool and fresh. The interior of limousines and other closed cars is so apt to be hot and stuffy during the summer that this innovation will certainly be welcomed.

"Klaxon" Warning Signal—According to the makers of the Klaxon, the Lovell-McConnell Manufacturing Company, 361-365 Market street, Newark, N. J., a musical note does not penetrate or command. It is the discordant note that dominates, and the Klaxon is guaranteed to produce the most startling discord ever heard. The device is electrical in action and is operated by a small electric motor and battery, commanded by an ordinary push button. On the end of the motor shaft is a toothed wheel that rubs across a knob fastened to the steel disk or diaphragm, the vibration of the latter producing the sound. The Klaxon can be easily applied to the right or left hand side of a car and the operation of installing it is very simply and easily carried out. It is manufactured under the patents of M. R. Hutchinson, and C. S. Knowles, 5 Arch street, Boston, Mass., is the sole distributor.

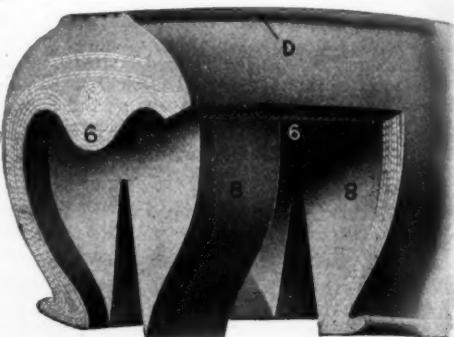
Dayton Airless Tires—The ideal tire would seem to be the one possessing all the good features of the pneumatic and the solid rubber tire without the bad features of either, and this is something

the Dayton Rubber Manufacturing Company, Dayton, O., think they have in the Fawkes tire, which was first placed on the market in 1906. It is of the non-inflated, punctureless type, and according to the makers, it more nearly meets the requirements of automobile work than any of the kind yet devised. When it first appeared it met with a very large demand and the plant could scarcely keep pace with the orders, but internal



SECTION DAYTON AIRLESS TIRE.

troubles, ending in the disruption of the firm, caused a loss of the success thus achieved through the long delay involved in litigation. The Fawkes patents became the property of one of the officers of the company, who is now the general manager of the Dayton Rubber Manufacturing Company. In the two years intervening large sums have been spent in tests and experiments, with a view to improving the Fawkes tire, and the result is known as the Dayton airless tire, which is illustrated herewith. It is now being manufactured under a number of new patents by the above company. Its construction will be apparent from the sectional view, showing that the columns of rubber are made of different sizes and strengths, and are placed at various intervals according to the load the tire is designed to carry, the factor of strength having been carefully computed and tested. A report by C. F. Adamson, M. E., shows the deflection or resiliency of the Dayton airless tire to be about 10 per cent. greater than that of a pneu-



METHOD OF REINFORCEMENT USED.

matic under the same load conditions, the vibration being the same. Nothing but the best of materials worked by modern machinery are employed, the durability of the tires having been proved by the experience of hundreds of users of the Fawkes tires, which have stood up for 20,000 to 30,000 miles. Various types of treads are made to fit either standard clincher or quick detachable rims.